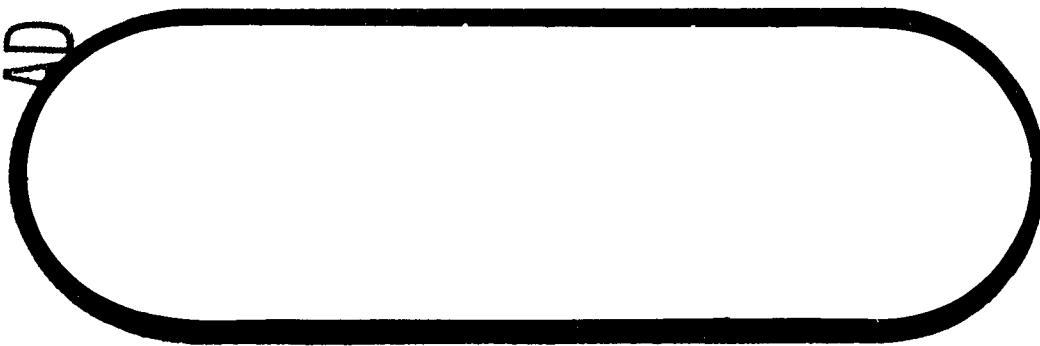


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**SEATTLE, WASHINGTON**

THE **BOEING** COMPANY

CODE IDENT NO. 81205

NUMBER D2-5286-41

TITLE MINUTE MAN MONTHLY FAILURE SUMMARIES - MAY, 1963

MODEL NO. WS-133A CONTRACT NO. AF 04(64)-289-580, -714

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PREPARED BY Reliability Evaluation Group 2-1772-3

SUPERVISED BY R. G. Bush 7/17/63

APPROVED BY R. J. Delaney

APPROVED BY F. L. Curtis 7/17/63

CLASS & DISTR  
APPROVED BY F. L. Curtis 7/17/63  
(DATE)

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## INTRODUCTION

This report is submitted in accordance with MIL-R-27542 (USAF) as partial fulfillment of contractual requirements of Contracts AF 04(647)-289, -580, and -714, and AF 04(694)-107. The format and content are as agreed upon with BSD/STL and defined in D2-14969, "Minuteman Simplified Failure Reporting Plan per MIL-R-27542".

The failure data from each area are first tabulated to show the numbers of discrete failure events at the Figure A equipment level to provide quick visibility regarding trend as well as a breakdown of the data with respect to types and causes of failures. Back-up pages are then provided to describe each reported failure event reflected in the tabulations. These descriptions are also intended to relate the number of specific Figure A components replaced to restore the Figure A to satisfactory operating condition. The failures classified as Primary Failure Events are related to equipment unreliability and are subject to corrective action by means of design changes. Hardware failures caused by faulty instructions or personnel errors are classified as "controllable" since they can be controlled by management actions. In total, all of the failure data pertinent to replaceable-level components are useful for logistics purposes.

A separate section of the report, Section G, provides a summary of hardware and system problems evidenced by the failure data received from all bases, together with the status of resolution of each problem.



THE **BOEING** COMPANY

2-5142-2

NUMBER D2-5286-41

SECTION TITLE OPERATIONAL FAILURE DATA -

341st SMW, MALMSTROM AIR FORCE BASE

for June, 1963

PREPARED BY Reliability Evaluation Group 2-1772-3

SUPERVISED BY R. G. Bush 7-8-63  
R. G. Bush

APPROVED BY R. J. Delaney  
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APPROVED BY F. L. Curtis 7-17-63  
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NO. D2-5286-41

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OPERATIONAL DATA - 341st SMW, MAINSTREAM AFB For: 6-26-63					BREAKDOWN OF DISCRETE FAILURE EVENTS Cumulative Total/Past MONTH						
Fig. A No.	Figure A Nomenclature	MAFB FSRR	OOAMA FSRR Addenda	No. of Failure Events	Primary	Secondary	Handling	Personnel or Test Error	Replaced Assembly Retested Good	Miscellaneous	In Process
1214	Liquid Cool. Eqp. G&C Grd.	94	33	103/22	80/10	1/1	0	0	6/1	0	16/10
1412	VRSA	84	30	101/25	98/23	0	0	0	1/0	0	2/2
1228	Status Command Msg. Proc.	64	27	64/11	12/3	23/2	0	18/0	4/1	0	7/5
1296	Alarm Set Anti Intrusion	58	15	53/4	26/3	0	3/0	5/0	14/0	4/0	1/1
1251	Digital Data Group	60	17	53/11	14/1	21/2	0	0	7/2	5/3	6/3
4043	Elevator Work Cage	10	0	41/1	27/1	0	5/0	0	0	3/0	6/0
1201	Programmer Group	41	8	34/5	13/3	0	4/0	0	2/0	10/0	5/2
1284	Power Supply Group	42	13	33/6	13/3	15/1	0	1/1	1/0	1/1	2/0
1608	Security Pit-Vault Door	14	0	26/9	15/9	0	6/0	2/0	2/0	1/0	0
4252	Code Interfer-Verifier Set	10	4	17/1	12/1	0	0	0	0	4/0	1/0
1368	Radio Set	14	0	14/5	12/4	0	0	1/1	0	0	1/0
1243	Launch Control Console	12	4	13/1	2/0	0	0	*3/0	1/0	*6/1	1/0
1268	Command Signal Decoder	10	0	13/1	0	0	0	0	1/0	12/1	0
4105	Gearcase Motor	6	0	12/3	7/2	0	5/1	0	0	0	0
4012	Test Set, Data Anal. Cent.	11	0	11/1	7/0	0	1/0	2/1	1/0	0	0
1283	Motor Generator Set	9	3	10/4	1/0	0	0	3/2	0	0	6/2
1303	Repeater, Telephone Set	6	0	9/6	2/1	2/0	0	0	0	0	5/5
1600	Door, Launcher Pers. Prim. Access	1	0	8/8	8/8	0	0	0	0	0	0
3007	Test Set-Explosive	8	5	8/1	5/0	0	0	0	0	2/0	1/1
1447	Drier Air Compressor	8	0	8/2	-	-	-	-	-	-	-

NOTE: Number of failure events also includes events reported on other pertinent operational data (FSR, FSTR, UER) which were not covered by an FSRR. The classification of a discrete failure event may be changed subsequent to this report upon receipt of supplementary information; (\*) denotes where such changes have occurred in this report.

NOTE: Number of failure events also includes events reported on other pertinent operational data (FSR, FSRR, UER) which were not covered by an FSRR. The classification of a discrete failure event may be changed subsequent to this report upon receipt of supplementary information; (\*) denotes where such changes have occurred in this report.

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OPERATIONAL DATA - 341st SMW, MALMSTROM AFB					BREAKDOWN OF DISCRETE FAILURE EVENTS						
For: 6-26-63					Cumulative Total/Past MONTH						
Fig. A No.	Figure A Nomenclature	MAFB PSRR	OOAMA PSRR Addenda	No. of Failure Events	Primary	Secondary	Handling	Personnel or Test Error	Replaced Assembly Retested Good	Miscellaneous	In Process
4491	Start Up Unit	7	1	7/0	*6/0	0	0	0	*1/0	0	0
4018	Adapter Group Test	5	0	7/4	5/2	0	0	0	0	2/2	0
1367	LCS Motor Generator	5	2	7/1	0	5/0	1/0	0	0	1/1	0
4059	Semi Trailer T/E	0	0	6/2	4/0	0	0	0	0	2/2	0
1605	Actuator, Electro-Mechan.	2	0	5/4	4/4	0	1/0	0	0	0	0
1213	Comd. Status Msg. Proc. Grp.	6	6	5/1	2/0	1/0	0	0	1/0	0	1/1
3092	Test Set, Programmer Grp.	4	0	5/0	2/0	0	0	0	0	2/0	1/0
1302	Telephone Conn. & Switching	2	0	5/2	0	0	0	0	2/0	0	3/2
1211	Environ. Cont. Sys., LF	1	0	*5/0	-	-	-	-	-	-	-
1337	LCS Distribution Box	5	0	5/1	0	3/0	0	0	0	1/1	1/0
6009	Data omitted - Classified										
1606	Wiring & Cont. Set, Elec. Launch	1	0	4/4	4/4	0	0	0	0	0	0
4523	Power Supply	4	0	4/2	2/1	0	0	0	0	2/1	0
1603	Piping & Cont. Access Hyd.	3	0	3/0	3/0	0	0	0	0	0	0
1366	Term Equipmt. Cable SUB/LCC	0	0	2/2	1/1	0	0	1/1	0	0	0
1306	Telephone	0	0	*2/0	*2/0	0	0	0	0	0	0
604	G&C Coupler	2	0	2/0	-	-	-	-	-	-	-
4031	Truck Mech. Maint.	0	0	1/0	1/0	0	0	0	0	0	0
1289	Power Supply Grp, LCF	1	0	1/0	1/0	0	0	0	0	0	0
3109	Test, Set Alarm Set	1	0	1/0	1/0	0	0	0	0	0	0

NOTE: Number of failure events also includes events reported on other pertinent operational data (PSR, PSTH, UER) which were not covered by an PSRR. The classification of a discrete failure event may be changed subsequent to this report upon receipt of supplementary information; (\*) denotes where such changes have occurred in this report.

NOTE: Number of failure events also includes events reported on other pertinent operational data (PSR, PSR, UER) which were not covered by an PSR. The classification of a discrete failure event may be changed subsequent to this report upon receipt of supplementary information; (\*) denotes where such changes have occurred in this report.



DEFINITIONS

MAFB PSRR - This column indicates the number of Boeing-generated engineering reports which are written in the 341st. SMW Strategic Missile Support Base (SMSB) "Bench Check" (repair) shop. Information presented is findings available during fault isolation and replacement of plug-in modules (field level maintenance).

OOAMA PSRR Addenda - This column indicates the number of Boeing-generated engineering reports which are written in the OOAMA depot repair shop. As a rule they bear the same number as 341st. SMW reports; however, new data not directly related to the original failure event may be reported by separate number, i.e., unit dropped, unusual maintenance procedures, etc.

Number of Failure Events - This column shows the number of discrete failure events reported.

Primary - A true reliability-significant failure event involving equipment failure(s) which cannot be traced to any cause other than a design error, manufacturing discrepancy, or a part failure. Such failures may occur only after the equipment has been installed and has functioned properly once.

Secondary - An equipment failure event induced by "chain-reaction" to a primary failure event.

Handling - This category includes failures which were caused by damage (including contamination) suffered by the equipment during handling, transportation, or storage.

Personnel or Test Error - This column shows the events reported as failures which were caused by improper procedures by personnel or errors in performing tests. The affected hardware may or may not have been damaged.

Replaced Assembly Retested Good - This failure category includes those cases in which a part removed from a Figure A and assumed to be responsible for the malfunction retests good.

Miscellaneous - Events which cannot be included in any other classification are listed here. The receipt of additional information may result in putting some of these items into other categories.

In Process - This column shows the events for which the reports have not been completely analyzed and the cases where advance information reveals that a failure has occurred but the failure report has not been received or analyzed.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1201 - Programmer Group, OA 3388A/GSW-4

Primary Failure Events

Location

Launch Sequence Programmer Drawer (A2), 25-22038-51:

LF B-07 FSRR -378R (4-30-63) - Rack S/N 0000028; Module 25-22740-1,  
FSRR -379R R6 and R9 (NAA 443-0354-704) burned.  
Originally classified under "In  
Process".

Voltage Regulator Assembly Drawer (A6), 25-22042-50:

LF C-07 FSRR -296R (3-7-63) - Rack S/N 0000040; Module 25-29320,  
FSRR -298R R7 (BAC R14WY501) was adjusted.  
Shutdown Launch Facility switch S1  
(BAC S30BF1R) inoperative.

LF A-10 FSRR -526 (4-30-63) - Rack S/N 0000024; Modules 25-23421-8  
and 25-29315-10 rejected. No retest  
data.

LF C-07 FSRR -308R (3-15-63) - Rack S/N 0000040. Switch S-2, BAC  
S30BF2W, was sticking. Heating and  
softening of synthetic rubber coating  
on microswitch pressure contacts was  
cause of sticking. Switch freed by  
trimming away coating.

LF H-09 FSRR -473R (4-24-63) - Rack S/N 0000083 - Switch S-2, BAC  
S30BF2W, inoperative.

The remaining events are classified as primary failures on the basis that a  
reported failure of the Figure A was cleared by replacement of a given drawer(s),  
regardless of the fact that all drawers later retested good in the SMSB.

Sequential Timer Drawer (A1) 25-22037-55:

LF G-07 FSRR -304R (3-13-63) - Rack S/N 0000040

Sequential Timer Drawer (A1) 25-22037-68:

LF G-05 FSRR -449R (4-19-63) - Rack S/N 0000066

LF J-08 FSRR -631R (6-6-63) - Rack S/N 0000031

THE **BOEING** COMPANY

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NUMBER D2-5286-41

SECTION TITLE OPERATIONAL FAILURE DATA -

341st SMW, MALMSTROM AIR FORCE BASE

for June, 1963

PREPARED BY Reliability Evaluation Group 2-1772-3

SUPERVISED BY R. G. Bush 7-8-63  
R. G. Bush

APPROVED BY R. J. Delaney  
for R. J. Delaney

APPROVED BY F. L. Curtis 7-17-63  
F. L. Curtis (DATE)

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OPERATIONAL DATA - 341st SMW, MALIASTROM AFB For: 6-26-63					BREAKDOWN OF DISCRETE FAILURE EVENTS Cumulative Total/Past MONTH						
Fig. A No.	Figure A Homenciture	MAFB FSRR	OOAMA FSRR Addenda	No. of Failure Events	Primary	Second- ary	Handling	Person- nel or Test Error	Replaced Assembly Retested Good	Miscel- laneous	In Process
1214	Liquid Cool. Eqp. G&C Grd.	94	33	103/22	80/10	1/1	0	0	6/1	0	16/10
1412	VRSA	84	30	101/25	98/23	0	0	0	1/0	0	2/2
1228	Status Command Msg. Proc.	64	27	64/11	12/3	23/2	0	18/0	4/1	0	7/5
1296	Alarm Set Anti Intrusion	58	15	53/4	26/3	0	3/0	5/0	14/0	4/0	1/1
1251	Digital Data Group	60	17	53/11	14/1	21/2	0	0	7/2	5/3	6/3
4043	Elevator Work Cage	10	0	41/1	27/1	0	5/0	0	0	3/0	6/0
1201	Programmer Group	41	8	34/5	13/3	0	4/0	0	2/0	10/0	5/2
1284	Power Supply Group	42	13	33/6	13/3	15/1	0	1/1	1/0	1/1	2/0
1608	Security Pit-Vault Door	14	0	26/9	15/9	0	6/0	2/0	2/0	1/0	0
4252	Code Insert-Verifier Set	10	4	17/1	12/1	0	0	0	0	4/0	1/0
1368	Radio Set	14	0	14/5	12/4	0	0	1/1	0	0	1/0
1243	Launch Control Console	12	4	13/1	2/0	0	0	*3/0	1/0	*6/1	1/0
1268	Command Signal Decoder	10	0	13/1	0	0	0	0	1/0	12/1	0
4105	Gearcase Motor	6	0	12/3	7/2	0	5/1	0	0	0	0
4012	Test Set, Data Anal. Cent.	11	0	11/1	7/0	0	1/0	2/1	1/0	0	0
1283	Motor Generator Set	9	3	10/4	1/0	0	0	3/2	0	0	6/2
1303	Repeater, Telephone Set	6	0	9/6	2/1	2/0	0	0	0	0	5/5
1600	Door, Launcher Pers. Prim. Access	1	0	8/8	8/8	0	0	0	0	0	0
3007	Test Set-Explosive	8	5	8/1	5/0	0	0	0	0	2/0	1/1
1447	Drier Air Compressor	8	0	8/2	-	-	-	-	-	-	-

NOTE: Number of failure events also includes events reported on other pertinent operational data (FSR, FSTR, UER) which were not covered by an FSR. The classification of a discrete failure event may be changed subsequent to this report upon receipt of supplementary information; (\*) denotes where such changes have occurred in this report.



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No. D2-5286-41

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OPERATIONAL DATA - 341st SW, MAINSTROM AFB For: 6-26-63					BREAKDOWN OF DISCRETE FAILURE EVENTS Cumulative Total/Past MONTH						
Fig. A No.	Figure A Nomenclature	MAFB PSRR	COAMA PSRR Addenda	No. of Failure Events	Primary	Secondary	Handling	Personnel or Test Error	Replaced Assembly Retested Good	Miscellaneous	In Process
4491	Start Up Unit	7	1	7/0	*6/0	0	0	0	*1/0	0	0
4018	Adapter Group Test	5	0	7/4	5/2	0	0	0	0	2/2	0
1367	LCS Motor Generator	5	2	7/1	0	5/0	1/0	0	0	1/1	0
4059	Semi Trailer T/E	0	0	6/2	4/0	0	0	0	0	2/2	0
1605	Actuator, Electro-Mechan.	2	0	5/4	4/4	0	1/0	0	0	0	0
1213	Comd. Status Msg. Proc. Grp.	6	6	5/1	2/0	1/0	0	0	1/0	0	1/1
3092	Test Set, Programmer Grp.	4	0	5/0	2/0	0	0	0	0	2/0	1/0
1302	Telephone Conn. & Switching	2	0	5/2	0	0	0	0	0	0	3/2
1211	Environ. Cont. Sys., LF	1	0	*5/0	-	-	-	-	-	-	-
1337	LCS Distribution Box	5	0	5/1	0	3/0	0	0	0	1/1	1/0
6009	Data omitted - Classified										
1606	Wiring & Cont. Set, Elec. Launch	1	0	4/4	4/4	0	0	0	0	0	0
4523	Power Supply	4	0	4/2	2/1	0	0	0	0	2/1	0
1603	Piping & Cont. Access Hyd.	3	0	3/0	3/0	0	0	0	0	0	0
1366	Term Equipmt. Cable SUB/LCC	0	0	2/2	1/1	0	0	1/1	0	0	0
1306	Telephone	0	0	*2/0	*2/0	0	0	0	0	0	0
604	G&C Coupler	2	0	2/0	-	-	-	-	-	-	-
4031	Truck Mech. Maint.	0	0	1/0	1/0	0	0	0	0	0	0
1289	Power Supply Grp, LCF	1	0	1/0	1/0	0	0	0	0	0	0
3109	Test, Set Alarm Set	1	0	1/0	1/0	0	0	0	0	0	0

NOTE: Number of failure events also includes events reported on other pertinent operational data (FSR, PSTH, UER) which were not covered by an FSR. The classification of a discrete failure event may be changed subsequent to this report upon receipt of supplementary information; (\*) denotes where such changes have occurred in this report.

NOTE: Number of failure events also includes events reported on other pertinent operational data (PSR, PSRR, UER) which were not covered by an PSRR. The classification of a discrete failure event may be changed subsequent to this report upon receipt of supplementary information; (\*) denotes where such changes have occurred in this report.

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NO. D2-5286-41

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DEFINITIONS

MAFB PSRR - This column indicates the number of Boeing-generated engineering reports which are written in the 341st. SMW Strategic Missile Support Base (SMSB) "Bench Check" (repair) shop. Information presented is findings available during fault isolation and replacement of plug-in modules (field level maintenance).

OCAMA PSRR Addenda - This column indicates the number of Boeing-generated engineering reports which are written in the OCAMA depot repair shop. As a rule they bear the same number as 341st. SMW reports; however, new data not directly related to the original failure event may be reported by separate number, i.e., unit dropped, unusual maintenance procedures, etc.

Number of Failure Events - This column shows the number of discrete failure events reported.

Primary - A true reliability-significant failure event involving equipment failure(s) which cannot be traced to any cause other than a design error, manufacturing discrepancy, or a part failure. Such failures may occur only after the equipment has been installed and has functioned properly once.

Secondary - An equipment failure event induced by "chain-reaction" to a primary failure event.

Handling - This category includes failures which were caused by damage (including contamination) suffered by the equipment during handling, transportation, or storage.

Personnel or Test Error - This column shows the events reported as failures which were caused by improper procedures by personnel or errors in performing tests. The affected hardware may or may not have been damaged.

Replaced Assembly Retested Good - This failure category includes those cases in which a part removed from a Figure A and assumed to be responsible for the malfunction retests good.

Miscellaneous - Events which cannot be included in any other classification are listed here. The receipt of additional information may result in putting some of these items into other categories.

In Process - This column shows the events for which the reports have not been completely analyzed and the cases where advance information reveals that a failure has occurred but the failure report has not been received or analyzed.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1201 - Programmer Group, OA 3388A/GSW-4

Primary Failure Events

Location

Launch Sequence Programmer Drawer (A2), 25-22038-51:

LF B-07 FSRR -378R (4-30-63) - Rack S/N 0000028; Module 25-22740-1, R6 and R9 (NAA 443-0354-704) burned. Originally classified under "In Process".  
FSRR -379R

Voltage Regulator Assembly Drawer (A6), 25-22042-50:

LF C-07 FSRR -296R (3-7-63) - Rack S/N 0000040; Module 25-29320, R7 (BAC R14WY501) was adjusted. Shutdown Launch Facility switch S1 (BAC S30BF1R) inoperative.  
FSRR -298R

LF A-10 FSRR -526 (4-30-63) - Rack S/N 0000024; Modules 25-23421-8 and 25-29315-10 rejected. No retest data.

LF C-07 FSRR -308R (3-15-63) - Rack S/N 0000040. Switch S-2, BAC S30BF2W, was sticking. Heating and softening of synthetic rubber coating on microswitch pressure contacts was cause of sticking. Switch freed by trimming away coating.

LF H-09 FSRR -473R (4-24-63) - Rack S/N 0000083 - Switch S-2, BAC S30BF2W, inoperative.

The remaining events are classified as primary failures on the basis that a reported failure of the Figure A was cleared by replacement of a given drawer(s), regardless of the fact that all drawers later retested good in the SMSB.

Sequential Timer Drawer (A1) 25-22037-55:

LF C-07 FSRR -304R (3-13-63) - Rack S/N 0000040

Sequential Timer Drawer (A1) 25-22037-68:

LF G-05 FSRR -449R (4-19-63) - Rack S/N 0000066

LF J-08 FSRR -631R (6-6-63) - Rack S/N 0000031

Primary Failure Events (Cont'd)

Location

Calibrator-Test Programmer Drawer (A3) 25-22039-56:

LF B-05 FSRR -91R (1-16-63) - Rack S/N unknown.

LF A-04 FSRR -222R (2-15-63) - Rack S/N unknown.

Combined failure event involving replacement of two drawers:

Calibrator-Test Programmer Drawer (A3) 25-22039-56:

FSRR -84R (1-14-63) - Rack S/N unknown.

LF B-04 -

Launch Sequence Programmer Drawer (A2) 25-22038-51:

FSRR -88R - Rack S/N unknown..

Voltage Regulator Assembly Drawer (A6) 25-22042-51

LF C-03 FSRR -569R (5-16-63) - Rack S/N 0000058

Power Supply Drawer (A7) 25-22043-59

LF Unk. FSRR -554R (5-14-63) - Rack S/N 0000048. Drawer checked good in SMSB. It is not known, whether the reported failure was cleared by the replacement of the drawer.

Handling

Location

The following Sequential Timer Drawers (A1) 25-22037-55, Pin P/N NAS 561PF2-15 was sheared:

LF A-08 FSRR -3R (11-19-62) - Rack S/N unknown.

LF A-05 FSRR -10R (12-3-62) - Rack S/N 0000019

LF A-05 FSRR -15R (12-3-62) - Rack S/N 0000019

LF I-07 FSRR -498R (5-3-63) - Rack S/N 0000098

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**BOEING**

NO. D2-5286-41

SECT. B

PAGE 5

# DEFINITIONS

MAFB FSRR - This column indicates the number of Boeing-generated engineering reports which are written in the 341st. SMW Strategic Missile Support Base (SMSB) "Bench Check" (repair) shop. Information presented is findings available during fault isolation and replacement of plug-in modules (field level maintenance).

OOAMA FSRR Addenda - This column indicates the number of Boeing-generated engineering reports which are written in the OOAMA depot repair shop. As a rule they bear the same number as 341st. SMW reports; however, new data not directly related to the original failure event may be reported by separate number, i.e., unit dropped, unusual maintenance procedures, etc.

Number of Failure Events - This column shows the number of discrete failure events reported.

Primary - A true reliability-significant failure event involving equipment failure(s) which cannot be traced to any cause other than a design error, manufacturing discrepancy, or a part failure. Such failures may occur only after the equipment has been installed and has functioned properly once.

Secondary - An equipment failure event induced by "chain-reaction" to a primary failure event.

Handling - This category includes failures which were caused by damage (including contamination) suffered by the equipment during handling, transportation, or storage.

Personnel or Test Error - This column shows the events reported as failures which were caused by improper procedures by personnel or errors in performing tests. The affected hardware may or may not have been damaged.

Replaced Assembly Retested Good - This failure category includes those cases in which a part removed from a Figure A and assumed to be responsible for the malfunction retests good.

Miscellaneous - Events which cannot be included in any other classification are listed here. The receipt of additional information may result in putting some of these items into other categories.

In Process - This column shows the events for which the reports have not been completely analyzed and the cases where advance information reveals that a failure has occurred but the failure report has not been received or analyzed.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1201 - Programmer Group, OA 3388A/GSW-4

Primary Failure Events

Location

Launch Sequence Programmer Drawer (A2), 25-22038-51:

LF B-07 FSRR -378R (4-30-63) - Rack S/N 0000028; Module 25-22740-1, FSRR -379R R6 and R9 (NAA 443-0354-704) burned. Originally classified under "In Process".

Voltage Regulator Assembly Drawer (A6), 25-22042-50:

LF C-07 FSRR -296R (3-7-63) - Rack S/N 0000040; Module 25-29320, FSRR -298R R7 (BAC R14WY501) was adjusted. Shutdown Launch Facility switch S1 (BAC S30BF1R) inoperative.

LF A-10 FSRR -526 (4-30-63) - Rack S/N 0000024; Modules 25-23421-8 and 25-29315-10 rejected. No retest data.

LF C-07 FSRR -308R (3-15-63) - Rack S/N 0000040. Switch S-2, BAC S30BF2W, was sticking. Heating and softening of synthetic rubber coating on microswitch pressure contacts was cause of sticking. Switch freed by trimming away coating.

LF H-09 FSRR -473R (4-24-63) - Rack S/N 0000083 - Switch S-2, BAC S30BF2W, inoperative.

The remaining events are classified as primary failures on the basis that a reported failure of the Figure A was cleared by replacement of a given drawer(s), regardless of the fact that all drawers later retested good in the SMSB.

Sequential Timer Drawer (A1) 25-22037-55:

LF C-07 FSRR -304R (3-13-63) - Rack S/N 0000040

Sequential Timer Drawer (A1) 25-22037-68:

LF G-05 FSRR -449R (4-19-63) - Rack S/N 0000066

LF J-08 FSRR -631R (6-6-63) - Rack S/N 0000031

Primary Failure Events (Cont'd)

Location

Calibrator-Test Programmer Drawer (A3) 25-22039-56:

LF B-05 FSRR -91R (1-16-63) - Rack S/N unknown.  
LF A-04 FSRR -222R (2-15-63) - Rack S/N unknown.

Combined failure event involving replacement of two drawers:

LF B-04 - { Calibrator-Test Programmer Drawer (A3) 25-22039-56:  
FSRR -84R (1-14-63) - Rack S/N unknown.  
Launch Sequence Programmer Drawer (A2) 25-22038-51:  
FSRR -88R - Rack S/N unknown..

Voltage Regulator Assembly Drawer (A6) 25-22042-51

LF C-03 FSRR -569R (5-16-63) - Rack S/N 0000058

Power Supply Drawer (A7) 25-22043-59

LF Unk. FSRR -554R (5-14-63) - Rack S/N 0000048. Drawer checked good in SMSB. It is not known, whether the reported failure was cleared by the replacement of the drawer.

Handling

Location

The following Sequential Timer Drawers (A1) 25-22037-55, Pin P/N NAS 561PF2-15 was sheared:

LF A-08 FSRR -3R (11-19-62) - Rack S/N unknown.  
LF A-05 FSRR -10R (12-3-62) - Rack S/N 0000019  
LF A-05 FSRR -15R (12-3-62) - Rack S/N 0000019  
LF I-07 FSRR -498R (5-3-63) - Rack S/N 0000098



Replaced Assembly - Retested Good

Launch Sequence Programmer Drawer (A2) 25-22038-51:

Location

LF B-03 FSRR -139R (1-26-63) - Rack S/N unknown. Fault found in Figure A 604.

Calibrator-Test Programmer Drawer (A3) 25-22039-59:

LF B-09 FSRR -525R (5-7-63) - Rack S/N 0000087. Fault found in Figure A 604.

Miscellaneous

Location

Sequential Timer Drawer (A1) 25-22037-68:

LF F-08 FSRR -360R (3-24-63) - Rack S/N 0000065. Drawer rejected during check of ECP installation - retested good.

Calibrator-Test Programmer Drawer (A3) 25-22039-56:

LF C-02 FSRR -177R (2-6-63) - Rack S/N unknown. Module 25-22747-1, retested o.k. when seated properly.

LF B-06 FSRR -267R (2-28-63) - Rack S/N unknown. One module was loose.

LF A-03 FSRR -217R (2-6-63) - Rack S/N unknown. Drawer retested good. It is not known whether the replacement drawer cleared the fault at the site.

Calibrator-Test Programmer Drawer (A3) 25-22039-59:

LF F-04 FSRR -359R (4-1-63) - Rack S/N 0000047. Modules 25-22731-1 and 25-22715-3 failed during ECP checkout.  
FSRR -361R, UER 123138

Launch - Missile Status Monitor Drawer (A4) 25-22040-63:

Unknown FSRR -371R (2-18-63) - Drawer S/N 0000120; Module 25-22715-8, UER 143971 failed during ECP checkout.

Unknown FSRR -335R (3-15-63) - Spare Drawer S/N 0000086; Module 25-22714-10, cold solder joint.

Miscellaneous (Cont'd)

Location

Launch - Missile Status Monitor Drawer (A4) 25-22040-63:

SMSB FSRR -336R (3-15-63) - Spare Drawer S/N 0000108; Modules 29-21707-3, 25-22701-1, 25-22715-8, 25-22704-15, and 25-22706-13 contained miscellaneous defects, the cause of which cannot be ascertained.  
UER's 038563, 038502, 038501

Voltage Regulator Assembly Drawer (A6) 25-22042-50:

LF B-07 FSRR -373R (4-1-63) - Rack S/N 0000028. Indicator light sockets were loose; fixed and returned to spares.

Voltage Regulator Assembly Drawer (A6) 25-22042-51:

LF G-10 FSRR -472R (unknown) - Report date 5-22-63, Rack S/N 0000049 Reason for drawer rejection not known. Drawer retested good.

In Process

Location

Launch Sequence Programmer Drawer (A2) 25-22038-54:

LF A-11 FSRR -497R (5-4-63) - Rack S/N 0000017. Fault at site could not be duplicated at SMSB. Drawer sent to OAMA for further analysis.

Calibrator - Test Programmer Drawer (A3) 25-22039-56:

LF C-09 FSRR -356R (4-27-63) - Rack S/N unknown. Reasons why this drawer was removed and replaced are unknown at this time.

Launch - Missile Status Monitor Drawer (A4) 25-22040-63:

LF H-04 FSRR -446R (4-20-63) - Rack S/N unknown. Drawer 25-22042-51 was also rejected but retested good.  
FSRR -445R

In Process (Cont'd)

Location

Launch - Missile Status Monitor Drawer (A4) 25-22040-63:

LF G-10 FSRR -447R (4-20-63) - Rack S/N 0000079. Replacement drawer did not clear fault. Further information is forthcoming.

Voltage Regulator Assembly Drawer (A6) 25-22042-2( )

LF F-07 FSRR -656R (5-15-63) - Rack S/N 0000052. Drawer 25-22040-63 was also rejected but retested good.

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Figure A 1213 - Command Status-Message Processing Set

Primary Failure Events

Location

LCF B-01 FSRR -65R (1-4-63) - Electronic Line Selector Drawer,  
P/N 8323657-501 - check-out fault on  
Figure A 4012. Retested good.

LCF B-01 \*FSRR -63R (12-31-62) - Line Failure Monitor Unit, P/N 8323652-501.  
DAC would not transmit SCNT from Bl. Module  
A-10 P/N 8619203-501 had shorted transistor  
Q6 (2N404M).

\*FSRR -64 - Converter- Waveform Drawer, P/N 8323574-501.  
Removed same time as -63R above. Retested  
good.

\* Same event

Secondary Failure Events

Location

LCF D-01 FSRR -290R (3-7-63) - Drawer P/N 8318766-503. Drawer failed  
when Figure "A" 1289 supplied an over-  
voltage of 40v to the drawer.

FSRR -291R Drawer P/N 8318766-503. Same failure as  
-290R but in second rack.

FSRR -290R, COAMA Module A4 P/N 8618770-501. Q2 (2N665)  
was shorted. Failed transistor was  
replaced.

FSRR -291R, COAMA Module A4 P/N 8618770-501. Transistors  
(2N665) Q1 & Q2 and diode CR3 (019M) were  
shorted. Failed parts were replaced.

Retest Good

Location

LCF A-01 FSRR -522R (5-1-63) - Drawer P/N 8323574-501 was removed but  
no information as to why.

Figure A 1213 (Cont'd)  
Page 2 of 2

In Process

Location

LCF Unk. UER 038726 (5-8-63) - Drawer P/N 8318766-503. Pins #1 & #2 are  
burned. Defective pins removed and replaced.  
UER 038725 Module A4, P/N 8618770-501, removed and  
replaced. Transistor Q2 (2N665) was  
reported shorted E-C.

# OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1214 - Liquid Cooler, G&C Section

## Primary Failure Events

The following 30 failures of the Water Chiller (P/N 10-20676-2) were found to have broken compressor (Hokanson P/N 316148) intake reed valves. The vendor is replacing compressors on a warranty basis, as it is believed that the broken reed valve is caused by a faulty manufacturing process. However, since chiller failures are currently occurring after a change in the manufacturing process, the problem is under close surveillance. Tests are being conducted at both the vendor and Boeing facilities.

SITE (LF)	MAFB FSRR	DATE OF EVENT	CHILLER S/N	ADDITIONAL INFORMATION
A-10	72	10-31-62	0000065	
A-07	24	11-29-62	0000026	Also, the compressor motor is burned-out.
B-06	4*	12-05-62	0000032	
B-10	26	12-17-62	0000039	
B-04	60	01-04-63	0000045	Also, the compressor motor is burned-out.
A-08	62	01-07-63	0000068	
A-09	3*	01-15-63	0000043	
B-10	146	01-29-63	0000134	
A-07	145	01-29-63	0000060	
D-04	227	02-15-63	0000051	
A-05	229	02-15-63	0000341	
C-03	257	02-25-63	0000061	
F-04	178	03-01-63	0000027	
D-10	281	03-05-63	0000108	
B-02	322	03-18-63	0000057	Pumping assembly (S/N 0000269) for this cooler also was rejected for a broken filter cap seal. FSRR MAFB -329R
D-07	342	03-20-63	0000099	
C-05	395	03-25-63	0000058	
B-08	352	03-25-63	0000044	
C-08	376	03-28-63	0000056	
F-03	383	03-29-63	0000072	
B-11	398	04-05-63	0000093	Also, the compressor motor burned-out. This FSRR has not been received. Pumping assembly (S/N 0000117) was found leaking, but wasn't replaced until 4-10-63 due to lack of spares. FSRR-MAFB -425R
E-10	415	04-05-63	0000198	
E-09	416	04-05-63	0000053	
F-05	411	04-12-63	0000071	

\* OAMA FSRR Report

Figure A 1213 (Cont'd)  
Page 2 of 2

In Process

Location

LCF Unk. UER 038726 (5-8-63) - Drawer P/N 8318766-503. Pins #1 & #2 are  
burned. Defective pins removed and replaced.  
UER 038725 Module A4, P/N 8618770-501, removed and  
replaced. Transistor Q2 (2N665) was  
reported shorted E-C.

# OPERATIONAL DATA - 341st SMW

June 26, 1963

## Figure A 1214 - Liquid Cooler, G&C Section

### Primary Failure Events

The following 30 failures of the Water Chiller (P/N 10-20676-2) were found to have broken compressor (Hokanson P/N 316148) intake reed valves. The vendor is replacing compressors on a warranty basis, as it is believed that the broken reed valve is caused by a faulty manufacturing process. However, since chiller failures are currently occurring after a change in the manufacturing process, the problem is under close surveillance. Tests are being conducted at both the vendor and Boeing facilities.

SITE (LF)	MAFB FSRR	DATE OF EVENT	CHILLER S/N	ADDITIONAL INFORMATION
A-10	72	10-31-62	0000065	
A-07	24	11-29-62	0000026	Also, the compressor motor is burned-out.
B-06	4*	12-05-62	0000032	
B-10	26	12-17-62	0000039	
B-04	60	01-04-63	0000045	Also, the compressor motor is burned-out.
A-08	62	01-07-63	0000068	
A-09	3*	01-15-63	0000043	
B-10	146	01-29-63	0000134	
A-07	145	01-29-63	0000060	
D-04	227	02-15-63	0000051	
A-05	229	02-15-63	0000341	
C-03	257	02-25-63	0000061	
F-04	178	03-01-63	0000027	
D-10	281	03-05-63	0000108	
B-02	322	03-18-63	0000057	Pumping assembly (S/N 0000269) for this cooler also was rejected for a broken filter cap seal. FSRR MAFB -329R
D-07	342	03-20-63	0000099	
C-05	395	03-25-63	0000058	
B-08	352	03-25-63	0000044	
C-08	376	03-28-63	0000056	
F-03	383	03-29-63	0000072	
B-11	398	04-05-63	0000093	Also, the compressor motor burned-out. This FSRR has not been received. Pumping assembly (S/N 0000117) was found leaking, but wasn't replaced until 4-10-63 due to lack of spares. FSRR-MAFB -425R
E-10	415	04-05-63	0000198	
E-09	416	04-05-63	0000053	
F-05	411	04-12-63	0000071	

\* OOAMA FSRR Report

U3 4288 2000 REV. 8/62

2-5142-2

REV SYM \_\_\_\_\_

**BOEING**

NO. D2-5286-41

SECT. B

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Figure A 1214 (Cont'd)  
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Primary Failure Events (Con't)

SITE (LF)	MAFB FSRR	DATE OF EVENT	CHILLER S/N	ADDITIONAL INFORMATION
G-11	28*	04-15-63	0000114	
G-10	397	04-16-63	0000104	Pumping assembly (S/N 0000236) for this cooler also was rejected for an a.c. pump shaft seal leak. FSRR MAFB -481R.
G-02	456	04-19-63	0000092	Also, the compressor motor burned-out.
F-03	458	04-19-63	0000100	Also, the compressor motor burned-out.
E-05	460	04-22-63	0000132	
B-05	459	04-27-63	0000040	

\* OOAMA FSRR Report

The following 27 failures of the Water Chiller (P/N 10-20676-2) have not had a complete failure analysis. From the indications at time of failure it is suspected these chillers have broken compressor (Hokanson P/N 316148) intake reed valves.

SITE (LF)	MAFB FSRR	DATE OF EVENT	CHILLER S/N	ADDITIONAL INFORMATION
B-08	126	01-19-63	0000031	
A-02	144	01-28-63	0000069	Pumping assembly (S/N 0000152) for this cooler also was rejected for leaks. FSRR MAFB -153R.
B-06	260	02-27-63	0000113	
B-03	261	02-28-63	0000028	
B-03	367	03-27-63	0000078	
A-02	393	04-02-63	0000026	
H-09	457	04-18-63	0000191	
H-04	471	04-27-63	0000125	
E-06	469	04-27-63	0000120	Pumping assembly (S/N 0000289) for this cooler also was removed. Assembly retested good. FSRR MAFB -470R
E-02	510	05-01-63	0000079	
G-09	506	05-03-63	0000121	
A-04	507	05-03-63	0000047	

Primary Failure Events (Cont'd)

SITE (LF)	MAFB FSRR	DATE OF EVENT	CHILLER S/N	ADDITIONAL INFORMATION
K-02	508	05-03-63	0000083	
F-04	511	05-03-63	0000154	
F-10	519	05-07-63	0000064	
D-11	536	05-11-63	0000110	
H-06	537	05-11-63	0000126	
G-06	547	05-14-63	0000007	
C-11	574	05-18-63	0000055	
F-02	583	05-20-63	0000098	
F-10	582	05-20-63	0000270	
L-05	584	05-22-63	0000188	
B-07	596	05-28-63	0000074	
K-11	604	05-28-63	0000112	
K-10	628	06-05-63	0000190	
Unk.	623	06-05-63	0000086	
K-07	35*	06-14-63	0000138	

\* OOAMA FSRR Report

There have been 3 random water chiller failures.

SITE (LF)	MAFB FSRR	DATE OF EVENT	CHILLER S/N	FAILURE MODE & ADDITIONAL INFORMATION
A-05	25	12-18-62	0000029	Rivets came loose on the compressor exhaust valve.
A-10	170	02-04-63	0000102	Compressor motor burn-out* and gummed reed valve.
A-09	199	02-06-63	0000118	Hot gas by-pass and expansion valve not properly set..

\* Five other compressors had burned-out motors, but they also had broken reed valves.. Consequently they are listed under reed valve failures.

Primary Failure Events (Cont'd)

The following 15 failures were due to leaks in the liquid cooling pumping assembly (P/N 10-20677-3). The 3 modes of failure include:

1. A.C. & D.C. pump shaft seal leakage. T.O. 21SM80A-2-6 was revised March 25, 1963 to specify a new bleeding (priming) procedure to prevent damage to the two pump shaft seals. Later investigation has revealed poor quality control at the pump manufacture, consequently a work statement is being initiated to assure clean pump seals. The possibility of a new pump source is being investigated.
2. Modulator valve seal leakage. It has been requested that the next leaking modulator valve be routed to Seattle for failure analysis.
3. Pump AN fitting leakage. Fitting leakage is being controlled by a revised installation procedure (use of teflon tape) and tighter inspection controls by the vendor.

SITE (LF)	MAFB FSRR	DATE OF EVENT	PUMP ASSY. S/N	TYPE OF LEAK AND ADDITIONAL INFORMATION
A-10	196	02-06-63	0000189	A.C. & D.C. pump seal. Amplifier (S/N 0000193) was also removed on this cooler. FSRR MAFB -198R. New pumping assembly (S/N 0000152) was installed and then rejected on start-up for A.C. pump shaft seal leak. FSRR MAFB -197R
C-09	216	03-13-63	0000191	D.C. pump seal. Switching relay (P/N 9274-6618 S/N 0000039) failed and was routed to Seattle for failure analysis. Chiller (S/N 0000022) was also removed from this cooler but retested good. FSRR MAFB -321R
B-07	368	03-26-63	0000198	A.C. pump seal.
E-10	413	04-06-63	0000253	A.C. pump seal.
Unk.	26*	05-03-63	0000177	D.C. pump seal.
A-03	538	05-11-63	0000188	A.C. pump seal.
A-11	13*	11-26-62	0000196	Mod. Valve seal.
B-05	61	01-04-63	0000202	Mod. Valve seal.
C-06	374	03-14-63	0000182	Mod. Valve seal.
C-03	494	05-01-63	0000225	Mod. Valve seal.
C-09	323	03-15-63	0000207	AN-Fitting.
B-05	337	03-15-63	0000310	AN-Fitting.

Primary Failure Events (Cont'd)

SITE (LF)	MAFB FSRR	DATE OF EVENT	PUMP ASSY. S/N	TYPE OF LEAK AND ADDITIONAL INFORMATION
A-03	396	04-04-63	0000282	Type unknown. Also possible sticking flow control valve.
A-10	414	04-06-63	0000354	Type unknown.
D-03	412	04-09-63	0000194	Type unknown. Chiller (S/N 0000101) was also removed from this cooler but retested good. FSRR MAFB -409R

\* COAMA FSRR Report

There have been 5 random pumping assembly (P/N 10-20677-3) failures.

SITE (LF)	MAFB FSRR	DATE OF EVENT	PUMP ASSY. S/N	FAILURE MODE AND ADDITIONAL INFORMATION
B-04	27	12-23-62	0000187	D.C. pump shaft frozen. Amplifier (S/N 0000192) was also removed from this cooler FSRR MAFB -28R
D-09	171	02-27-63	0000207	Broken wire on relay.
A-02	509	05-06-63	0000323	A.C. pumping motor burn-out.
C-05	624	06-05-63	0000280	A.C. pumping motor burned-out. Amplifier (S/N 0000245) was also removed, but it is believed to be o.k. FSRR MAFB -627R.
K-07	605	06-14-63	0000254	D.C. motor brushes worn out and water seal worn down to metal collar.

Replaced Assembly Retest Good

The following 6 cases are where equipment appeared to be faulty but had not failed. When retested in the SMSB, no malfunction or faults were found.

SITE (LF)	MAFB FSRR	DATE OF EVENT	ASSEMBLY S/N	ASSEMBLY
D-06	251	02-27-63	0000188	Pumping assembly
A-02	517	05-07-63	0000182	Pumping assembly
D-06	241	03-14-63	0000059	Chiller assembly

Figure A 1214 (Cont'd)  
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Replaced Assembly Retest Good (Cont'd)

SITE (LF)	MAFB FSRR	DATE OF EVENT	ASSEMBLY S/N	ASSEMBLY
D-10	410	04-10-63	0000151	Chiller assembly
G-07	625	06-05-63	0000054	Chiller assembly
D-03	384	04-03-63	0000390	Amplifier assembly

Secondary Failure Events

The following failure occurred because only two phases of the 3 phase commercial power was available.

SITE (LF)	MAFB FSRR	DATE OF EVENT	PUMPING ASSY. S/N	ADDITIONAL INFORMATION
C-09	614	05-31-63	0000186	A.C. motor burned out.* Amplifier assembly (S/N 0000363) for this cooler also was removed. MAFB FSRR -613R. Chiller (S/N 0000189) for this cooler also was removed because it froze-up due to no liquid circulating through it. MAFB FSRR -612R.

\* Two additional A.C. motor burn-outs are listed as random primary failures.

In Process

The following FSRR numbers have been assigned to AFTO 211 reported discrepancies at MAFB. When the discrepant hardware is retested at MAFB, the FSRR will be written, transmitted to Seattle, and analyzed in succeeding summary report.

SITE (LF)	MAFB FSRR	DATE OF EVENT	ASSEMBLY S/N	ASSEMBLY
Unk.	629	Unk.	0000188*	Pumping
Unk.	626	Unk.	0000226	Pumping
Unk.	556	Unk.	0000188	Pumping
Unk.	556	Unk.	0000269	Pumping
Unk.	556	Unk.	0000251	Pumping

Figure A 1214 (Cont'd)

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In Process (Cont'd)

SITE (LF)	MAFB F3RR	DATE OF EVENT	ASSEMBLY S/N	ASSEMBLY
Unk.	556	Unk.	0000189	Pumping
Unk.	556	Unk.	0000309	Pumping
F-09	652	Unk.	0000229	Pumping
A-03	655	Unk.	0000191	Pumping
E-08	632	Unk.	0000077	Chiller
K-07	603	Unk.	0000138	Chiller
E-11	650	Unk.	0000179	Chiller
F-09	651	Unk.	0000024	Chiller
F-07	658	Unk.	0000066	Chiller
Unk.	667	Unk.	0000066	Chiller
Unk.	539	Unk.	0000190	Amplifier

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1228 - Status-Command Message Processing Group

Primary Failure Events

Waveform Converter Drawer, P/N 8323611-501

Location

- LF A-10 FSRR -2R (11-13-62) - Failed SCN test. Drawer retested good in SMSB and returned to spares.
- LF A-10 FSRR -97R (1-14-63) - Failed SCN test. OOAMA retest of Module A-34, P/N 8618993-501, found four parts (Q1, Q2, CR1, and CR2) shorted. Parts not available for analysis.
- FSRR -98R notes that Line Selector, Electronic, Drawer was also removed. This drawer was retested good in SMSB.
- LF A-05 FSRR -504R (5-5-63) - Drawer P/N 8323611-501 - Failed test with Figure A 4012. Module A10 replaced.
- 504RA (6-19-63) Further tests showed A12 Module, P/N 8619203-501 was also defective. Shipped Modules A10 and A12 to OOAMA.
- LF A-06 FSRR -571R (5-17-63) - Drawer P/N 8323611-501 failed SCN test. Module A5, P/N 8618968-501 failed test
- 571RA (6-11-63) - Drawer sent to OOAMA where it retested good using a substitute A5 Module. Module A5 (above) not received at OOAMA.

Waveform Converter Drawer, P/N 8323611-502

- LF E-02 FSRR -297R (3-9-63) - No-Go on self test. Drawer returned to OOAMA.
- LF D-02 FSRR -223R (2-16-63) - VRSA Channel 30 readout. Replacement drawer cleared fault.

Line Selector, Electronic, Drawer, P/N 8323605-501

- LF A-10 FSRR -151R (1-24-63) - Failed SCN test. No retest data.

Line Selector, Electronic, Drawer, P/N 8323605-502

LF C-03      FSRR -570R (5-14-63) - Power supply circuit breaker tripped.  
Module A23, P/N 8619233-501, reported  
to be defective. No further information.

FSRR -466R (5-27-63) - Drawer P/N 8323605-502 was taken to  
LF F-03, but unused. While testing  
before returning to supply, drawer  
failed test. A39 Module P/N  
8618986-501 replaced. Drawer then  
retested and returned to AF supply.  
It is assumed that the Fig. A 4018  
test on 5-14-63 failed to discover  
defective A39.

LF Unk.      OOAMA-31 (5-23-63) - Drawer P/N 8323605-502, S/N 0000033; Module  
A34 P/N 8619233-501 defective. Diode CR2  
(P/N unk.) and four type 2N404 transistors  
(Q4, Q5, Q6, Q10) routed to Seattle for  
failure analysis. Origin of this failed  
drawer unknown.

Decoder Command Signal Drawer, P/N 8324719-502

LF B-10      FSRR -245R (2-18-63) - VRSA Channel 30 readout. Replacement  
drawer cleared fault. No retest data.

Decoder Command Signal Drawer, P/N 8325136-501

LF D-09      FSRR -246R (2-19-63) - VRSA Channel 30 readout. Replacement  
drawer cleared fault. No retest data.

Power Supply Drawer, P/N 8318766-503

LF G-11      FSRR -439R (4-6-63) - Power supply circuit breaker tripped.  
Module A4, P/N 8618770-501 replaced.  
No further information.



Secondary Failure Events

Fifteen failure events in which transistors (2N665) failed or are suspected to have failed on Isolation Converter P/N 8618770-501 of Power Supply P/N 8318766-503 due to loss of cooling air. Failure of the Environmental Control System, Figure A 1211 may have occurred, but cannot be ascertained from the information available:

Location

LF A-10	FSRR -21R (11-13-62) - 2N665 failure suspected; no retest data.
LF A-05	FSRR -44R (12-31-62) - transistors Q1 & Q2 were shorted.
LF B-02	FSRR -69R (1-10-63) - transistor Q1 was shorted.
LF B-06	FSRR -99R (1-13-63) - transistor Q2 was shorted.
LF B-06	FSRR -136R (1-20-63) - transistor Q1 was shorted.
LF C-05	FSRR -130R (1-22-63) - transistors Q1 & Q2 were shorted.
LF C-05	FSRR -109R (1-18-63) - transistors Q1 & Q2 were shorted.
LF B-10	FSRR -175R (1-31-63) - transistors Q1 & Q2 were shorted.
LF B-06	FSRR -210R (2-11-63) - transistors Q1 & Q2 were shorted.
LF B-06	FSRR -224R (2-20-63) - transistors Q1 & Q2 were shorted.
LF D-06	FSRR -300R (3-11-63) - transistor Q1 was shorted.
LF A-08	FSRR -331R (3-18-63) - transistor Q1 was shorted.
LF B-10	FSRR -390R (3-29-63) - 2N665 failure suspected; no retest data.
LF F-02	FSRR -400R (4-10-63) - 2N665 failure suspected; no retest data.
LF E-06	FSRR -474R (4-29-63) - transistor Q2 was shorted.

Two failures of Heat Sink Assembly P/N 8741786-502 of Power Supply 8318766-503 due to above condition.

LF A-06	FSRR -179R (1-31-63) - transistor Q1 (251B1) shorted.
LF F-05	FSRR -520R (5-8-63) - transistor Q2 (251M) failed. (Fig. A 1284 was still operating properly)

Secondary Failure Events (Cont'd)

Four failures of Power Supply P/N 8318766-503 due to overvoltage from Figure A 1284:

Location

- LF B-08    FSRR -172R (1-26-63) - Module 8718770-501, transistors Q1 & Q2 (2N665) were shorted.
- LF K-10    FSRR -499R (5-6-63) - Module 8741786-502 had a failed transistor Q1 (251B-1). Drawer was sent to Hill AFB.
- FSRR -494RA (6-18-63) - Module 8618770-501 had a shorted transistor Q1. Due to shortage of Hi-Rel parts, the replacement module had Non-Hi-Rel type 2N665 transistors.
- LF H-04    FSRR -442R (4-20-63) - Heat Sink Module P/N 8741786-501 had shorted transistor Q2 (251M). The module was replaced with a new module and the drawer replaced in the rack, at which time the replacement module blew out both Q1 and Q2 (251M). The drawer was returned to RCA. (The failure of the second module is believed to be a result of personnel error in not first clearing the fault on Figure A 1284.) FSRR's -443R -444R -445R and -446R are a part of this failure event.
- LF K-08    FSRR -606R (6-1-63) - Drawers P/N 8318766-503 in Figure A's 1228 and 1251 were replaced during ECP cleanup when Figure A 1284 failed. Replacement drawer in Figure A 1228 was defective and was replaced a second time.
- FSRR -609R
- UER 186549 (6-11-63) - First drawer was sent to CSA for repair. A4 Module P/N 8618770-501 had a shorted transistor (Q1) type 2N665.

One failure event in which both line failure monitor unit drawers, P/N 8323613-501, were removed. The failure was attributed to loss of cooling air from Environmental Control System, Fig. A 1211.

- LF A-07    FSRR -80R (1-14-63) - Drawers removed, no retest data on Fig. A 1228 available.
- FSRR -85R - One drawer retested good. No other information available.

One failure event in which power supply drawer P/N 8318766-503 was removed. The failure was attributed to loss of cooling air from Environmental Control System. (Figure A's 1251 and 1284 were also affected):

LF F-05      FSRR -578R (5-17-63)

Personnel or Test Error

Five failure events involving Volatile Code Pack P/N 18111000-1. These units were sent to OOAMA for further analysis and repair:

FSRR -452R (4-23-63) - Shutter release pin stuck in down position.

FSRR -452RA (6-11-63) - Pack was found to be very dirty and had been subject to rough handling. After cleaning and lubrication, it checked out satisfactorily.

FSRR -453R (4-23-63) - Code pack could not be inserted into the Code-Insert-er-verifier.

FSRR -453RA (6-11-63) - Tracks on the side of the code pack were found to be bent down, evidently by rough handling. After straightening, the unit functioned properly.

FSRR -454R (4-23-63) - The code could not be locked into the Volatile Code Pack.

FSRR -454RA (6-11-63) - The code set lever had a burr on it that prevented it from moving freely. After removing the burr and cleaning, the unit functioned properly.

FSRR -455R (4-23-63) - Volatile Code Pack Shutter is binding between code pin plate and shutter release.

FSRR -455 RA (6-11-63) - After the surface of the code pack was cleaned and smoothed and the code erase pin lubricated, the unit functioned properly.

FSRR -535R (5-11-63) - Code could not be locked into the Volatile Code Pack.

FSRR -535RA (6-19-63) - Dirt was found in the code set mechanism. After cleaning, the unit functioned satisfactorily.

Figure A 1228 (Cont'd)  
Page 6 of 8

Seven failure events involving Volatile Code Pack P/N 18111000-1 - code pins and shutter release pins were stuck. It is believed that this condition is due to the use of a hand code setter which was built in the CSA and used during base installation. This encoder was not built to the required close tolerances, and consequently some of the volatile code packs are being damaged.

Location

SMSB	FSRR -39R (12-14-62)
SMSB	FSRR -40R (12-14-62)
SMSB	FSRR -156R (1-30-63)
SMSB	FSRR -157R (1-30-63)
SMSB	FSRR -165R (2-1-63)
SMSB	FSRR -167R (2-1-63)
SMSB	FSRR -258R (2-25-63)

Two failure events involving Volatile Code Pack P/N 1811100-1 - the Code Erase pin was stuck. It appears that the code pack is being damaged by attempting to install it when the code erase mechanism is not in proper position:

Location

SMSB	FSRR -166R (2-1-63)
SMSB	FSRR -41R (12-14-62)

One failure of Volatile Code Pack P/N 1811100-1 - a screw near the erase pin was broken apparently by attempting to install the code pack when the Code Erase Mechanism was not in the proper position:

SMSB	FSRR -164R (2-1-63)
------	---------------------

One failure of Volatile Code Pack P/N 1811100-1 - the code erase pin keyway was damaged. It appeared that some object was forced beneath the keyway slot:

LF D-06	FSRR -219R (2-15-63)
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One failure when difficulty was found in trying to insert the Code Pack into the Code Inserter-Verifier (CIV). Returned to OOAMA:

SMSB	FSRR -534R (5-11-63)
------	----------------------

Figure A 1228 (Cont'd)  
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One failure when code could not be locked into the Volatile Code Pack P/N 1811100-1. The Code Locking Bar will not secure the code. Returned to OOAMA.

SMSB FSRR -168R (2-1-63)

Replaced Assembly Retested Good

Location

SMSB FSRR -118R (1-22-63) - Spare Waveform Converter, P/N 8323611-502, was brought to site, but unused. A bench check is required before the drawer can be returned to supply. Sent to OOAMA for check.

LF F-03 FSRR -362R (3-26-63) - Electronic Line Selector P/N 8323605-502 was rejected at site following modification work. Only information on AFTO 211 was "No-Go on card test". The drawer was returned to Air Force supply.

LF F-10 FSRR -364R (3-26-63) - Waveform Converter Drawer P/N 8323611-502 was rejected by an OOAMA team which was at F-10 completing an ECP modification. The drawer was returned to the CSA where it retested good.

LF C-06 FSRR -588R (5-24-63) - Waveform Converter Drawer P/N 8323611-502 had been used by an OOAMA team during ECP modification and had to be functionally checked prior to its return to stores.

In Process

Location

LF A-09 FSRR -448R (4-21-63) Drawer P/N 8324719-501 developed a 200-ohm impedance to ground in the Tampering Detection Network. This sneak path effectively placed the positive terminal of the batteries at ground potential and caused the hazardous current condition which resulted in the unnecessary replacement of the 12 batteries in LF A-09.

-558R (5-16-63)

In Process (Cont'd)

Location

LF A-11	FSRR -479R (4-29-63)	- Drawer P/N 8323613-501 failed DAC test. On troubleshooting by repair personnel, tests showed modules A38 and A28, P/N 8618968-501 and 8620405-501 defective. Drawer failed again after replacement modules were installed. One A38 module and two A28 modules were sent to OOAMA for analysis.
LF F-03	FSRR -602R (6-3-63)	- SCMPG Rack would not accept SCNT. Drawers P/N 8323611-502 and 8324719-501 were replaced. Drawer P/N 8323611-502 retested good. No further data on P/N 8324719-501.
LF A-06	FSRR -573R	Line Selector, Electronic P/N 8323605, S/N 0000140.

The following FSRR numbers have been assigned to AFTO 211 reported discrepancies at MAFB. When the discrepant hardware is retested at MAFB, the FSRR will be written, transmitted to Seattle, and analyzed in succeeding summary reports.

FSRR -634R - Command Signals Decoder P/N 8325136-502, S/N 0000146  
FSRR -666R - Line Selector, Electronic P/N 8323605-502, S/N 0000143  
FSRR -668R - Power Supply P/N 8318766-503, S/N 0000157

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### Primary Failures

LCF D-1	FSRR -233R (2-16-63) -	Program Control Panel, P/N 25-24177-10. Wrong LF answered SCNT. Replacement cleared fault.
LCF D-1	FSRR -268R (2-28-63) -	Alarm Reset switch P/N 25-24176-15 caught in reset position. Alarm Control Module, P/N 25-24180-13 replaced erroneously prior to establishing Alarm Reset switch as malfunction.

SMSB . FSRR COAIA-1 (11-2-62) - Launch Control Panel, P/N 25-24178-18, bent contacts on mechanical code unit, probably incurred on re-assembly.

SMSB FSRR -22R (12-17-62) - Mechanical Assy P/N 25-25553-20, inhibit switch actuator P/N 23-6951-2 was sticking. The actuator pin was bent and partially sheared. A new switch assy. was installed and no further trouble was encountered.

SMSB FSRR -545R (5-13-63) - Launch Control Panel P/N 25-24178-18. While encoding the mechanical code unit, it was observed that the unit would not encode and the launch switch was binding.

-545RA (00AIA), An incorrect code was in the unit & the code set pins were out of alignment. Pins were realigned and correct code inserted.

LCF D-1      FSRR -341R (4-2-63) - Alarm Control Panel, P/N 25-24180-13,  
removed for unknown reason. AFTO 211  
requested check for rough handling. Assembly  
retested o.k.

Figure A 1243 (Cont'd)  
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Miscellaneous

Location

SMSB	FSRR -125R (12-1-62)	- P/N 25-25698-1, mechanical code units will not encode. Sent to OOAMA on 1-23-63.
SMSB	FSRR -133R (12-1-62)	- P/N 25-25698-1, mechanical code units will not encode.
SMSB	FSRR -581R (5-20-63)	- Launch control panel P/N 25-24178-18. The key-operated "launch" switch, S-100, would rotate to the "launch" position but, when rotated back to the "code used" position, it would not break its contacts. -581RA (OOAMA), Contacts on switch were adjusted, correcting fault.
SMSB	FSRR -231R (2-18-63)	Launch Control Panel P/N 25-24178-18,
SMSB	FSRR -234R (2-18-63)	AGA timer P/N 2212-M-63 out-of- adjustment.
SMSB	FSRR -235R (2-18-63)	Spares.

In Process

Location

LCF D-1	FSRR -505R (5-3-63)	- Audible alarm assy. P/N 25-24181-15. The Alarm No. 1 buzzer and light were intermittent. Replacement of the unit did not clear up problem.
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Figure A 1248 - Cable Assembly, Launch Facility

Handling (Damage)

LF A-06      FSRR -259RA (2-28-63) - P/N 10-20954-10 - The phenolic disc through which the G&C umbilical cable pins pass was damaged and the potting seal was broken. The outer threaded sleeve fell off. Additional information from OCAMA is required to determine why the threaded sleeve fell off.

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Figure A 1251 - Digital Data Group

Primary Failure Events

Audio Frequency Detector Unit, P/N 8323661-502

LF A-08 FSRR -4R (11-12-62) - Relay, K1 (P/N 8983022-1) on VRSA ring detector P/N 8619797-501, sticking. No retest data.

LF B-05 FSRR -96R (1-15-63) - Same symptoms as above. Drawer was sent to OOAMA, where it retested good.

Store, Launch Enable & Verify Unit P/N 8323600-503

LF A-06 FSRR -77R (12-20-62) - Failed test with Fig. A 4012 test set. Wiring error discovered in CSA. Upon repair, drawer retested good.

LF D-07 FSRR -244R (2-16-63) - Failed SCN test. No retest data.

LF H-03 FSRR -438R (4-13-63) - Failed SCN test. A39 module P/N 8619235-501 and A14 module P/N 8619233-501 were found to be defective. Modules sent to OOAMA for analysis.

Receiver-Transmitter Unit, P/N 8323591-501

LF A-10 FSRR -79R (1-14-63) - Drawer would not accept SCNT. Replacement cleared fault, but drawer retested good. Cause unknown.

LF C-02 FSRR -243R (2-22-63) - Amplifier gain could not be adjusted. A short between the output pin and shielding was found and repaired.

Launch Enable Unit P/N 8323619-502

LF A-02 FSRR -6R (11-13-62) - Cause for rejection unknown. Retested good in CSA.

Power Supply Unit, P/N 8318766-503

Two failures in which the circuit breaker could not be reset.

- |          |  |
|----------|--|
| LF B-11  | FSRR -292R (3-3-63) - Modules P/N 8741786-501 and 8618770-501 were replaced. Individual tests on modules showed no discrepancy. Drawer retested good after original modules were reinstalled.  |
| LF C-05  | FSRR -405R (4-10-63) - Drawer replaced. No retest data.  |
| *LF G-06 | FSRR -503R (5-4-63) - Power Supply Drawer 8318766-503 "No output - internal failure." Sent to OOAMA for analysis and repair.<br>*FSRR -503RA (6-11-63) - A4 Module P/N 8618770-501 had shorted Q1. The defective part was replaced by a type 2N665 that was not a high reliability part. Authority, a Command Decision at OOAMA.<br>*FSRR -568R (6-4-63) - Apparantly duplicates FSRR -503R, but should probably be for S/N 0000162, also shipped. |

Waveform Converter Unit, P/N 8323608-XXX

Three failures occurred due to excessive noise. It is believed incorporation of ECP 601 will minimize future rejections of this type.

Location

- |         |   |
|---------|---|
| LF A-05 | FSRR -576R (5-15-63) - Drawer P/N 8323608-504, modules A36 and A27 (P/N 8319233-501) replaced. No further information.  |
| LF A-03 | FSRR -524R (5-9-63) - Drawer P/N 8323608-504, replaced module A36 (P/N 8619233-501).  |
| Unk.    | FSRR -597R (5-29-63) - Two drawers, P/N 8323608-502, replaced module A36 in each drawer. (These were spare drawers used by OOAMA personnel during ECP modifications in "A" flight.) |

Secondary Failure Events

Twelve failure events in which transistors (type 2N665) failed or are suspected to have failed on isolation converter P/N 8618770-501 of power supply P/N 8318766-503 due to loss of cooling air. Failure of the Environmental Control System, Figure A 1211, may have occurred, but cannot be ascertained from the information available.

Location

LF B-02	FSRR -71R (1-10-63) - Transistors Q1 and Q2 were shorted.
LF A-05	FSRR -45R (12-29-62) - Transistor Q1 was shorted.
LF B-06	FSRR -100R (1-13-63) - Transistor Q2 was shorted.
LF B-06	FSRR -137R (1-20-63) - Transistor Q2 was shorted.
LF A-06	FSRR -180R (1-31-63) - Transistor Q2 was shorted.
LF C-05	FSRR -108R (1-18-63) - Considered one event. Power Supply (Figure A 1284) failure, which was induced by the Fig. A 1211 failure, was not recognized until after the third Fig. A 1251 Power Supply drawer failed.
	FSRR -110R (1-19-63)
	FSRR -131R (1-22-63)
LF A-08	FSRR -330R (3-18-63) - No retest data from OOAMA.
LF B-10	FSRR -389R (3-29-63) - A second Power Supply drawer was also failed before the failed Fig. A 1284 was discovered and cleared.
	FSRR -399R
LF F-02	FSRR -401R (4-5-63) - No retest data from OOAMA.
	FSRR -402R notes that Waveform Converter drawer P/N 8323608-504 also failed as a result of the same Fig. A 1211 shutdown.
LF H-04	FSRR -443R (4-20-63) - No retest data.
LF E-06	FSRR -483R (4-29-63) - No retest data.
LF F-05	FSRR -521R (5-8-63) - No retest data.
LF F-05	FSRR -579R (5-17-63) - Drawer P/N 8318766-503 failed due to loss of environmental control system, Figure A 1211. Power supply drawers in Figure A 1228 and 1284 were also affected by loss of environmental cooling from Fig. A 1211.

Secondary Failure Events (Cont'd)

Four failures of the Power Supply P/N 8318766-503 were due to shutdowns of the Environmental Control System (Fig. A 1211) when the batteries were dead:

LF A-07	FSRR -83R (1-4-63) - A4 Module P/N 8618770-501 had a shorted transistor Q2 (2N665). FSRR -82R notes that Store, Launch Enable Unit P/N 8323600-503 also failed as a result of the same Fig. A 1211 shutdown.
LF B-10	FSRR -176R (1-31-63) - No retest data from OOAMA.
LF B-06	FSRR -211R (2-11-63) - A4 module P/N 8618770-501 had defective Q1 and Q2 (types 2N665). Module was shipped to RCA for failure analysis.
LF B-06	FSRR -225R (2-20-63) - No retest data from OOAMA.

Four failures of the Power Supply P/N 8318766-503 resulting from failure of Figure A 1284:

Location

LF C-03	FSRR -129R (1-23-63) - A4 module P/N 8618770-501 had transistors Q1 and Q2 (2N665) shorted.
LF B-08	FSRR -173R (1-26-63) - A4 module P/N 8618770-501 had transistors Q1 and Q2 (2N665) shorted.
LF K-10	FSRR -502R (5-6-63) - A4 module P/N 8741786-501 had a failed transistor Q1 (251B-1)
* LF K-08	FSRR -611R (6-5-63) - Drawer P/N 8318766-503 defective - sent to OOAMA - see FSRR -606 for details of this failure and Figure A 1228 which also failed.

Replaced Assembly Retested Good

Two failure events in which the Launch Enable Unit drawer, P/N 8323619-503 failed checkout but later retested good:

Location

LF F-08	FSRR -363R (3-26-63) - Drawer rejected during ECP modification and checkout. Retested good at CSA and returned to Air Force Spares.
LF H-03	FSRR -437R (4-11-63) - Drawer failed to pass SCN test. Retested good at SMSB and returned to SAC.

Figure A 1251 (Cont'd)  
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Three failure events involving Waveform Converter P/N 8323608-504. The drawers failed an ACO 4012 test at the launcher, later tested out good at SMSB. Incorporation of ECP 601 should correct this problem:

LF D-10	FSRR -385R (4-3-63) - One event.
	FSRR -386R
LF C-04	FSRR -553R (5-14-63)
*LF C-07	FSRR -589R (5-24-63) - Had been used as spare drawer by OOAMA crew during ECP modification.

One failure of Power Supply P/N 8318766-503 occurred:

LF A-05	FSRR -500R (5-6-63) - Circuit breaker would trip after 15 minutes operation. Drawer was sent to CSA for repair. Retested good by operating it for 3 hours straight after which it was returned to spares.
---------	---

One failure event involving the Store, LEV, and Verification Unit P/N 8323600-505:

*LF C-08	FSRR -590R (5-24-63) - Drawer P/N 8323600-505 failed DAC test at launcher. Had been used as spare by OOAMA crew during ECP modifications. Retested good and returned to Stores.
----------	---

#### Miscellaneous

Two failures of Power Supply P/N 8318766-503 occurred during incorporation of ECP's in other drawers:

#### Location

LF F-02	FSRR -358R (3-26-63) - A4 module P/N 8618770-501 transistors Q1 and Q2 (2N665) were shorted. Repairs were made by cannibalizing from other cards.
LF F-03	FSRR -370R (3-26-63) - Module P/N 8741786-501 Q1 and Q2 (type 251B-1) were shorted. Module was replaced.

Figure A 1251 (Cont'd)  
Page 6 of 6

The following three drawer failures were reported from the CSA. In each case no reference is available by which the origin of the failed drawer can be determined.

- \*UER 186686 (6-4-63) - Drawer P/N 8323608-505. Failed test L5-A on ACO 4012. Module A-10 P/N 8619235-501 has noise on output replaced.
- \*UER 186653 (6-12-63) - Drawer P/N 8323600-505. Defective module A42, P/N 8619233-501, has no output. Replaced.
- \*UER 097740 (5-9-63) - Drawer P/N 8323600-505 broken. Wire in pin J of J1 to A3-29. Repaired.

In Process

Location

- |          |                      |  |
|----------|----------------------|--|
| *LF H-03 | FSRR -450R (4-21-63) | - Drawer P/N 8323619-503   |
| SMSB     | FSRR -253R (2-25-63) | - Store, Launch Enable Unit drawer P/N 8323600-503 failed to operate - no details of failure or where failure occurred.                              |
| SMSB     | FSRR -252R (2-25-63) | - Launch Enable Unit drawer P/N 8323619-502 failed to operate. No details of failure or where failure occurred.                                      |
| CSA      | FSRR -338R (3-20-63) | - Launch Enable Unit drawer P/N 8323619-502 was found in CSA with defective module P/N 8619233-501. No details of failure or where failure occurred. |
| *LF A-3  | FSRR -523R (5-09-63) | - Launch Enable Unit P/N 8323619-503 failed. DAC test. Replaced. No retest information from SMSB.  |
| *LF C-5  | FSRR -587R (5-24-63) | - Store Launch Enable Unit, P/N 8323600-505 failed DAC test. Shipped to OOAMA for repair. No retest information available.                           |

NOTE: Indicates a change since the last report.

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Figure A 1265 - Digital Data Group

Primary Failure Events

Location

LCF I-01    FSRR -575 (5-17-63) - Drawer P/N 8323575-501. The HVC will only ring as long as the ring button is depressed. Test indicated that relay K-1 P/N 8983078-1 was faulty.



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Figure A 1268 - Decoder, Command Signals

Replaced Assembly Retested Good

Location

LF A-3 FSRR -236R (2-11-63) - Decoder tripped during maintenance.

Miscellaneous

Location

SMSB FSRR -18R (12-11-62) - Pinched wire shorted to chassis.  
FSTR -21FT (12-7-62) - Wire was shorted by cover pinching it.  
This caused a short in the CIV unit.

SMSB FSTR -4FT (11-9-62) - +28V DC pin had short to ground.

SMSB FSTR -10FT (11-13-62) - The "marks" sensor on the "space" side of the code wheel makes contact with the wheel all of the time.

SMSB FSTR -16FT (11-14-62) - Unit would not totally reset after stepping to last position.

SMSB FSRR -430R (4-12-63) - Drawer P/N 1801400-1. Drawer does not indicate a "standby" condition on the CIV.

SMSB FSRR -431R (4-8-63) - Drawer P/N 1801400-1. A short between pins 42 & 63 of plug P2 caused a secondary failure of the CIV. This was the first cycle of the drawer.  
FSTR -19FT  
FSR -249F

SMSB FSRR -432R (4-12-63) - Drawer P/N 1801400-1. Drawer hangs up when stepping through test sequence.

SMSB FSRR -433R (4-5-63) - Drawer P/N 1801400-1. A fault within this drawer caused secondary failures of two different CIV's during attempted encoding verification tests.  
FSR -249F  
FSTR -20FT A short is suspected but was not located. Drawer has been sent to OOAMA.

SMSB FSRR -531R (5-10-63) - Drawer P/N 1801400-1 had the space stepping switch broken during an attempt to encode the drawer.

Figure A 1268 (Cont'd)  
Page 2 of 2

Miscellaneous (Cont'd)

Location

SMSB	FSRR -532R (5-11-63)	- Drawer P/N 1801400-1 - The lock wheel would not engage during an attempt to encode the drawer.
SMSB	FSRR -533R (5-11-63)	- Drawer P/N 1801400-1 - During verification it was noted that the "code present" light did not come on. An open was found from pin 60 of P3 to the code erase micro-switch.
SMSB	FSRR -586R (5-23-63)	- Drawer P/N 1801400-1. The squib firing mechanism would not release and erase the code during attempts to encode the drawer.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1282 - Storage Battery Set, LF

Test Error

Location

LF A-09      FSRR -558R (5-16-63) - Battery set was replaced in error during investigation into a hazardous current condition generated by a short in a volatile decoder relay (Figure A 1228).

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1283 - Motor Generator Set, LF

Personnel or Test Error

Location

LF D-08      FSRR -272R (2-25-63) - The over-under frequency relay K2 P/N 20823-1 had two terminals badly burned and two had been cut off. A noisy a/c motor bearing was also evident. Both parts were replaced. No further information is available.

LF L-09      FSRR -559R (5-10-63) - The motor generator failed to operate on ac power. Pins 1 and 3 were burned off the over-under frequency relay, K2.

LF B-06      FSRR -476R (4-28-63) - While attempting a startup, the dc plug welded itself to the pins on the motor generator receptacle. Trouble shooting indicated a dead short in the dc section of M.G. set. After repairing the plug and with no further testing this M.G. set was installed in LF N-03 where it has operated without failure.

Primary Failure Events

Location

LF D-07      FSRR -276R (2-27-63) - Brush Lifter Solenoid, P/N 301357 failed to operate. Failure analysis of this solenoid indicated that the lifter arm was bent, the solenoid plunger operated with difficulty, the input solenoid leads were darkened indicating over heating and the solenoids were overheated. It was also observed that the plunger was charred with organic substance which had apparently come from the coil and two turns of the pull in coil were welded to the case. It was concluded that either the coil burned up as a result of the plunger not opening the switch to the pull-in coil or that an insulation break down occurred allowing the solenoid windings to short to the case. Lacking repetative occurrences of these failure mechanisms, the problem is considered random.

In Process

Location

Unk.	OOAMA-32 (12- -62)	- Motor generator was received at OOAMA for repair. Functional testing indicated that the over voltage relay would not break. The under voltage relay chattered. Pin 3 of the over-under frequency relay was burned off, and dc motor brushes were chipped. All three relays were sent to Seattle.
LF A-08	FSRR -320R (3-16-63)	- OOAMA investigation indicates that the dc motor brushes were chipped; that both over and under relays chattered during over and under voltage tests and abnormal vibration of both ac & dc outboard bearings was evident. Failure analysis of the ac bearing by Seattle indicated the bearing had overheated, the bronze cages were razor thin, and that this was caused by contaminated bearings. As part of the analysis two new bearings, obtained from the vendor, were washed and produced small metal particles. The vendor procedure for handling lubricating and installing the bearings will be obtained by Boeing for analysis. No further information is available on the brushes or relays.
LF E-03	FSRR -375R (3-21-63)	- Motor Generator exhibited low output voltage. Replacing the voltage regulator P/N 401522 did not correct the problem. Report states battery voltage was low and the battery charger circuit breaker was defective.
LF E-05	FSRR -478 <sup>K</sup> (4-29-63)	- K2 relay P/N 20823-1 was removed and replaced. No reason was given for this removal.
LF C-09	FSRR -529R (4-27-63)	- AC motor shorted out. No further information to date.
LF L-09	FSRR -601R (5-29-63)	- Relay K2 was removed and replaced because of high resistance readings between pins 3 & 4, a high voltage drop to ground between pins and case, and the case was hot.

OPERATIONAL DATA - 341st SMW  
June 26, 1963

Figure A 1284 - Launch Facility Power Supply Group

Primary Failures

Location

LF B-08 FSRR -81R (1-14-63) - Rack S/N Unknown, A-3 Drawer S/N 0000061  
OOAMA Addendum - Module 25-23191-15, P/N's CR4, CR5, CR6  
(479-0011-001), R3 (443-0353-011), Q2 (472-0008-001),  
Q4 (472-0004-011).

LF A-11 FSRR -228R (2-13-63) - Rack S/N Unknown, Drawer S/N 0000017,  
Module 25-23191-13, no retest data.  
Module 25-25298-18, P/N Q2, Q5 (472-0008-001),  
R2 (443-0155-701).

LF D-05 FSRR -250R (2-25-63) - Rack S/N Unknown, Drawer S/N 0000170,  
Module 25-25298-17, P/N's Q1 (472-0008-001),  
R1 (443-0155-701).

LF D-07 FSRR -269R (3-2-63) - Rack S/N 0000100, A-1 Drawer S/N 0000162  
OOAMA Addendum - Module 25-23191-15, P/N's CR4, CR5, CR6  
(479-0011-001), R3 (443-0353-011), Q1 (472-0014-001).

LF H-03 FSRR -436R (4-11-63) - Rack S/N 0000011, A-1 Drawer S/N 0000186  
Module 25-25298-18, Q1 (472-0008-001),  
R1 (443-0155-701).

LF H-07 FSRR -435R (4-11-63) - Rack S/N 0000052, A-1 Drawer S/N 0000091  
Module 25-25298-17, Q5 (472-0008-001).

LF H-02 FSRR -468R (4-12-63) - Rack S/N 0000088, A-1 Drawer S/N 0000198  
Module 25-25298-17, Q4 (472-0008-001).

LF D-10 FSRR -475R (4-25-63) - Rack S/N 0000235, A-1 Drawer S/N 0000164  
Module 25-23191-15, no retest data.

LF B-04 FSRR -557R (5-11-63) - Rack S/N 0000040, A-1 Drawer S/N 0000337  
OOAMA Addendum - Module 25-23191-15, Q2 (P/N 472-0008-001)  
shorted.

LF K-10 FSRR -501R (5-6-63) - Rack S/N 0000112, A-3 Drawer S/N 0000031.  
Power Supply Drawers in the DAC also failed  
at the same time.  
OOAMA Addendum - Module 25-25298-17, Q2, Q7 (472-0008-001),  
R1 (443-0155-701).

LF G-05 FSRR -406R (4-6-63) - Rack S/N 0000079, A-1 Drawer S/N 0000176,  
Module 25-25298-17, Q1 (P/N 472-0008-001)  
shorted.

Figure A 1284 (cont'd)  
Page 2 of 4

Primary Failures (cont'd)

Location

LF J-07 FSRR -591R (5-26-63) - Rack S/N Unknown, Drawer S/N 0000392,  
Module 25-25296-11, no retest data.

LF C-07 FSRR -608R (6-1-63) - Rack S/N 0000053  
A-1 Drawer S/N 0000133, Module 25-25298-18,  
no retest data.

FSRR -607R - A-4 Drawer S/N 0000076, drawer retested good.

Secondary Failures

The following failures were induced by lack of cooling in the Power Supply Group. Cooling is supplied from the Environmental Control System, Figure A 1211. However, lack of cooling to the Power Supply Group is not necessarily indicative of a failure of Figure A 1211. The failure reports on only two of the following events (FSRR's -132R and -317R) state there was an actual Figure A 1211 failure, and three more events (FSRR's -68R, -387R, and -580R) indicate the possibility of a Figure A 1211 failure. The remaining events, in general, were due to the following causes:

1. Loss of 60-cycle power (both commercial and emergency) at the site and/or prolonged site operation on battery power (3 events).
2. Site temperature below the temperature at which Figure A 1211 is expected to operate, i.e., when the temperature becomes too low, Figure A 1211 will cut-off and must be restarted manually (7 events).

There are two changes which have bearing on this problem; ECP 431 which has been released, and SYS-19 which has been initiated and is being considered by BSD/STL. ECP 431 calls for a new functional test to be run at drawer level with air to the drawer supplied at 90°F. The purpose of the test is to eliminate those 25-23191-cards which are thermally unstable. This test will be run on drawers cycled out of operational sites.

Change SYS-19 will add a cooling effect sensor in the air passage with the Figure A 1284 rack. When cooling to the rack is lost, the site will undergo a controlled shut-down sequence to remove all 400-cycle power to the OGE.

Location

LF A-03 FSRR -5R (11-20-62) - Rack S/N 0000027, Drawer S/N 0000129  
FSRR -9R - Rack S/N 0000027, Drawer S/N 0000054  
\* FSRR -46R - Rack S/N 0000027, Drawer S/N 0000054  
OOAMA Addendum

\* FSRR -46R was formerly classified under "Handling".

Secondary Failures (cont'd)

Location

LF A-05	FSRR -43R (12-29-62) - Rack S/N 0000017 OOAMA Addendum
LF B-02	FSRR -68R (1-10-63) - Rack S/N Unknown, Drawer S/N 0000031 FSRR -70R - Rack S/N Unknown, Drawer S/N 0000036
LF B-06	FSRR -89R (1-13-63) - Rack S/N unknown.
LF B-06	FSRR -138R (1-20-63) - Rack S/N unknown. OOAMA Addendum
LF B-10	FSRR -174R (1-31-63) - Rack S/N unknown.
LF A-06	FSRR -181R (1-31-63) - Rack S/N unknown.
LF C-05	FSRR -111R (1-18-63) - Rack S/N unknown. Formerly classified under "Replaced Assembly Retested Good". FSRR -132R - Rack S/N unknown.
LF B-06	FSRR -212R (2-11-63) - Rack S/N unknown.
LF B-06	FSRR -226R (2-20-63) - Rack S/N unknown.
LF A-08	FSRR -317R (3-14-63) - Rack S/N 0000018, Drawer A-4, S/N 0000036 FSRR -318R - Rack S/N 0000018, A-1 Drawer S/N 0000015 FSRR -319R - Rack S/N 0000018, A-3 Drawer S/N 0000039
LF B-10	FSRR -387R (3-29-63) - Rack S/N 0000020, A-3 Drawer S/N 0000241 FSRR -391R - Rack S/N 0000020, A-1 Drawer S/N 0000174
LF F-02	FSRR -403R (4-5-63) - Rack S/N unknown, A-3 Drawer S/N 0000157. Brine Chiller shutdown caused by not using Environmental cover on Personnel Access Hatch.
LF E-06	FSRR -482R (4-29-63) - Rack S/N 0000033, A-3 Drawer S/N 0000319
LF F-05	FSRR -580R (5-17-63) - Rack S/N 0000050, A-3 Drawer S/N 0000111, Module 25-23191-15. OOAMA Addendum



Personnel or Test Error

Location

LF K-08 FSRR -610R (6-1-63) - Rack S/N unknown, A-3 Drawer S/N 0000078  
Pins in J1 and J2 shorted by metallic tape  
used instead of plastic caps to protect  
plugs from contamination.

Replaced Assembly Retested Good

Location

LF D-06 FSRR -299R (3-11-63) - Rack S/N 0000058, Drawer S/N 0000080.  
Voltages at site read between wrong points.

Miscellaneous

Location

OOAMA OOAMA-33 (5-20-63) - Rack S/N unknown. The report states that the  
A-4 drawer, S/N 0000036, was sent to a site but  
not used there. OOAMA received the drawer with  
a damaged handle, a considerably damaged  
25-25298-17 module and a missing resistor, R4,  
on the 25-23191-15 module. The report further  
states that available information seems to  
indicate that the drawer was cannabilized  
after being damaged.

In Process

Location

LF E-03 FSRR -354R (3-20-63), Multiple failures of the  
FSRR -355R (3-21-63) A-1 Drawer.

LF H-04 FSRR -444R (4-20-63) - Incomplete information.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1288 - Battery Set, LCF

Handling

Location

LCF B-01 FSRR -254R (2-14-63) - ten storage batteries, P/N K2318-RN-112, indicated low voltage. The tops of the batteries were covered with dust and a "sticky residue".

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1289 - Power Supply Group, LCF

Primary Failures

Location

LCF D-01 FSRR -289R (3-7-63) - A-1 Power Supply Drawer P/N 25-22633-33, P/N 25-25298-17, Q2 (472-0008-001) shorted. R2 (443-0155-701) burned. The Power Supply Drawers in the DAC equipment also failed at the same time.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1296 - Restricted Area Anti-Intrusion Alarm Set

Primary Failures

Location

Receiver-Transmitter Drawer, P/N 25-22558-1:

LF B-8	FSRR -114R (1-18-63) - S/N 0000014, Module A-2, 25-33373, potentiometer could not be adjusted. Module A-6, 25-27329-7, resoldered 100 KC connector. Module A-8, 25-33181-2, and Module A-9, 25-33375-2, were found defective. No retest data. FSRR -115R - Power Supply Drawer S/N 0000014; retested good. OOAMA Addendum
LF B-6	FSRR -277R (3-2-63) - S/N 0000040, Module A-4, 25-33575-4, Q2 UER 117907 (BAC T1N1) defective.
LF A-2	FSRR -47R (1-1-63) - S/N 0000007, Module A-9, 25-33375-5, no retest data. OOAMA Addendum -47R
LF A-2	FSRR -48R (1-1-63) - S/N 0000029, Modules A-6, 25-27329-7, A-8, 25-33181-1, and A-11, 25-33381-2, replaced; no retest data. OOAMA Addendum
LF A-11	FSRR -49R (1-1-63) - S/N 0000063, Module A-8, 25-33181-1, -2; no retest data. OOAMA Addendum -49R
LF B-2	FSRR -93R (1-13-63) - S/N 0000036, Module A-6, 25-27329-7, bad solder joint repaired to cure problem. OOAMA Addendum -93R
LF B-11	FSRR -203R (2-11-63) - S/N 0000003, Module A-8, 25-33181-1, R9 (NAA 443-0295-753) burned, no further information. OOAMA Addendum -16
LF D-11	FSRR -237R (2-12-63) - S/N 0000058, Module A-2, 25-33373-1, had shorted terminal E2. Modules A-8, 25-33181-2, and A-9, 25-33375-6, were found to be defective; no retest data. OOAMA Addendum
LF B-8	FSRR -113R (1-18-63) - S/N 0000032, Module A-9, 25-33375-6; no retest data. OOAMA Addendum

Figure A 1296 (cont'd)  
Page 2 of 5

Primary Failures (cont'd)

<u>Location</u>	<u>Converter-Monitor Drawer, P/N 25-27412-52:</u>
LF A-03	FSRR -14R (11-10-62) - S/N 0000007, Module A-7, 25-26024-9; no retest data. UER 152494
LF B-02	FSRR -92R (1-13-63) - S/N 0000034, Module A-21, 25-33342-20, Q9 (NAA 472-0157-001), shorted E-C. UER 143988
LF B-09	FSRR -264R (2-28-63) - S/N 0000040, Module A-2, 25-34194-9, Q7 (NAA 472-0157-001), shorted C-B. UER 135351
LF C-11	FSRR -270R (3-4-63) - S/N 0000035, Module A-12, 25-33352-33; no retest data. Connector J-17, chipped BAC 45BR2-63. UER's 135349, 135350, 117903
LF C-02	FSRR -280R (3-5-63) - S/N 0000132, Module A-21, 25-33342-20, Q9 (NAA 472-0157-001) open; Module A-20, 25-33341, no retest data. UER 143982
LF B-08	FSRR -201R (2-8-63) - S/N 0000004. Module A-18, 25-33350-13, Q5, Q10 shorted (472-0153-001). Module A-23, 25-33341-15, Q5 (472-0153-001) defective; CR4, CR14 (479-0001-001) defective; R1 (443-0160-050) defective. Module A-21, 25-33342-20, Q9 (472-0153-001) shorted.
LF D-05	FSRR -345R (3-8-63) - S/N 0000072, Module A-12, 25-33352-36. UER 135355
LF A-05	FSRR -238R (2-18-63) - S/N 0000080, Module A-1, 25-34192-18, Q12 (472-0157-001) defective. OOAMA Addendum -238R
LF F-07	FSRR -441R (4-4-63) - S/N 0000060, Module A-12, 25-33352-33, C11 (441-0245-001) open. Module A-4, 25-26029-13, transistors Q3, Q4, Q8, Q10 (472-0157-001) open. Diode CR1 (479-0035-001) open, transistor Q1 (472-0043-001) open. UER's 186380, 186381, 117928, 116470, 116448, 116428, 178906.

Figure A 1296 (cont'd)  
Page 3 of 5

Primary Failures (cont'd)

Location

Power Supply Drawer, P/N 25-22559-1:

LF A-03 FSRR -278R (3-1-63) - S/N 0000115, Module A-2, 25-26021-12, R7  
(NAA 443-0152-011) shorted.

LF B-10 FSRR -286R (3-7-63) - S/N 0000061, Module A-2, 25-26021-12, R7  
UER 181418 (443-0152-011) shorted; Q1 (BAC T4C1) shorted.

LF C-11 FSRR -256R (2-21-63) - S/N 0000050, Module A-2, 25-26021-12; no  
retest data.  
UER's 135256, 153353

LF C-02 FSRR -287R (3-14-63) - S/N 0000062, Module A-2, 25-26021-12, R7  
(443-0152-011) shorted.

LF A-10 FSRR -313R (3-14-63) - S/N 0000005, Module A-2, 25-26021-12, R7  
(443-0152-011) shorted.

LF B-03 FSRR -314R (3-13-63) - S/N 0000027, Module A-2, 25-26021-12; no  
retest data.

LF D-11 FSRR -239R (2-19-63) - S/N 0000058, Modules 25-27330-14 and  
25-26021-12; no retest data.

LF F-07 FSRR -577R (5-17-63) - S/N 0000060, Module A-2, 25-26021; no retest  
data.

Handling

Location

Converter-Monitor Drawer:

LF B-11 FSRR -204R (2-11-63) - S/N 0000088, BAC L10AB-1 handle broken.  
UER 144095

LF C-11 FSRR -255R (2-21-63) - S/N 0000050, broken connector (BAC C45BR2-63).  
OOAMA Addendum -49R

The following three drawers were damaged in an aircraft accident  
while being delivered to site C-02:

LF C-02 FSRR -101R (1-17-63) - S/N 0000047, Converter-Monitor Drawer.  
FSRR -102R (1-17-63) - S/N 0000007, Power Supply Drawer.  
FSRR -103R (1-17-63) - S/N 0000065, Receiver-Transmitter Drawer.  
OOAMA Addendum -103R

Personnel or Test Error

Location

The following Power Supply Drawer (P/N 25-22559-1) failures are classified test errors. Circuit and failed part analysis has shown that transistor Q1 failed under stresses that are unlikely unless a test error is made. Breakout box, ACO 298, has been redesigned to add current limiting resistor to applicable test points to eliminate this type of failure.

- LF A-02 FSRR -50R (1-1-63) - S/N 0000007, Module A-2, 25-26021-12, Q1 (BAC T4C1) shorted.
- LF B-09 FSRR -59R (1-6-63) - S/N 0000020, Module A-2, 25-26021-12, Q1 UER 181411 (BAC T4C1) shorted; CRI (479-0304-001) shorted.
- LF A-04 FSRR -56R (1-14-63) - S/N 0000013, Module A-3, 25-26021-12, Q1 (BAC T4C1) shorted.  
FSRR -57R - Converter-Monitor Drawer S/N 0000008 was failed by this power supply failure.
- LF B-05 FSRR -301R (3-3-63) - S/N 0000021, Module A-2, 25-26021-12, Q1 (BAC T4C1) shorted base-to-emitter; Q2 (NAA 472-0014-001) is defective. Was previously classified as "Primary".  
UER's 181410, 038788, 038787, 181420.
- LF A-02 FSRR -202R (2-8-63) - S/N 0000010. Module A-2, 25-26021-12 (2 cards) Q1 (BAC T4C1) shorted. Module A-6, 25-27330-14 (2cards), Q2 (BAC SH3A) shorted.  
UER's 178653, 178676, 178657, 181415.  
Was previously classified as "Primary".

Replaced Assembly Retested Good

Location

Converter-Monitor Drawer, P/N 25-27412-52:

- LF A-11 FSRR -42R (12-31-62) - S/N 0000006
- LF F-02 FSRR -248R (2-28-63) - S/N 0000106
- LF A-05 FSRR -263R (2-27-63) - S/N 0000010
- LF B-09 FSRR -265R (2-28-63) - S/N 0000101
- LF B-11 FSRR -307R (3-13-63) - S/N 0000052
- LF C-05 FSRR -349R (3-15-63) - S/N 0000071
- LF A-10 FSRR -343R (3-13-63) - S/N 0000001
- LF B-03 FSRR -347R (3-3-63) - S/N 0000018
- LF C-04 FSRR -344R (3-8-63) - S/N 0000086
- LF A-10 FSRR -348R (3-15-63) - S/N 0000136
- LF B-08 FSRR -206R (2-11-63) - S/N 0000014

Replaced Assembly Retested Good (cont'd)

Location

Converter-Monitor Drawer, P/N 25-27412-52: (cont'd)

LF C-07 FSRR -377R (3-28-63) - S/N 0000039  
LF C-07 FSRR -407R (3-28-63) - S/N 0000123  
LF F-02 FSRR -462R (4-2-63) - S/N 0000126

The most probable reason for the above drawers retesting good at the SMSB while showing fault symptoms at the site is the sensitivity of the Security System which requires extreme care in adjusting the system to individual site peculiarities. ECP 542 which tailors the system to the site is being accomplished at MAFB and is proving to be effective in reducing the number of system failure symptoms. The drawer P/N after this change is incorporated is 25-27412-64.

Miscellaneous

Location

Receiver-Transmitter Drawer, P/N 25-22558-1:

LF B-03 FSRR -284R (3-6-63) - S/N 0000033, out of adjustment.  
OOAMA addendum -284R

Power Supply Drawer, P/N 25-22559-1:

SMSB FSRR -95R (1-17-63) - S/N 0000013, Module A-3, 25-26021, bad when received.  
OOAMA Addendum -14; UER's 028141, 028142, 028143.

SMSB FSRR -230R (2-15-63) - S/N 0000013, Module A-6, 25-27330-14, out-of-tolerance when received.

LF B-10 FSRR -262R (2-28-63) - S/N 0000027, adjust pot on A-2 and A-5.

In Process

The following FSRR number has been assigned to AFTO 211 reported discrepancy at MAFB. When the discrepant hardware is retested at MAFB, the FSRR will be written, transmitted to Seattle, and analyzed in succeeding summary reports.

Site FSRR -659R - Converter-Monitor Drawer S/N 0000130, 25-27412-57.  
Unknown



OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1302 - Telephone Connecting & Switching Set, AN/GTC-8

Replaced Assembly Retested Good

Location

- LCF B-1 FSRR -37R (12-26-62) - No audible ring obtained from the telephone transmitter control panel on either Fig. A 1243 or Fig. A 1338. The 341st Communication and Electronic Shop checked drawer, P/N 1274186-501, and found no malfunction. It is assumed that a missing ground exists.
- LCF D-1 FSRR -274R (3-5-63) - LCF did not receive any ring from LF D-4. Rejected drawer, P/N 1274162-501, retested good.

In Process

The following FSRR numbers have been assigned to AFTO 211 reported discrepancies at MAFB. When the discrepant hardware is retested at MAFB, the FSRR will be written, transmitted to Seattle, and analyzed in succeeding summary reports.

Location

- LCF C-1 FSRR -593R - Repeater, Telephone P/N 8324410-501, S/N 0000023
- LF E-8 FSRR -622R - Repeater, Telephone P/N 1274175-501, S/N 0000070
- LCF A-1 FSRR -646R - Repeater, Telephone P/N 1274162-501, S/N 0000016

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 1303 - Repeater, Telephone Set, AN/GTC-9

Primary Failure Events

Location

LF A-10      FSRR -316R (3-9-63) - LCF unable to ring LF. Detector, P/N 1273038-501, trips at wrong voltage. Trouble was isolated to bad contacts of relay K2, P/N PP-6622-9, in drawer, P/N 1274175-501

LF A-5      FSRR -594R (5-27-63) - The Support Information Network Line reported as inoperative. The FL 1 filter coil, P/N ISPC-2.5R was shorted. The filter is located in drawer P/N 1274175-501

NOTE: FSRR -594R was erroneously reported last month as Figure A 1302.

Secondary Failure Events

Location

Unk.      FSRR -7R (11-12-62) - Figure A 1306 telephone caused 1/2-amp fuse to blow in Figure A 1303, S/N 0000021 - corrected by RCA. Reference RIR R586.

LF B-6      FSRR -20R (12-10-62) - Figure A 1306 telephone caused 1/2-amp fuse to blow in Figure A 1303, S/N 0000020 - corrected by RCA. Reference RIR R586.

In Process

Location

LF E-2      FSRR -617R (6-3-63) - Maintenance teams entering LF E-2 could not ring or talk to the LCF. Line amplifiers A1, A2, A3, P/N 1270022-2 in drawer P/N 1274175-501, were found to be inoperative.

FSRR -640R -      Power Supply, P/N 1273060-501, for above drawer was found to have a high voltage output. Reason for failure unknown. Power supply was sent to Hill AFB for further investigation.

Figure A 1303 (Cont'd)

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The following FSRR numbers have been assigned to AFTO 211 reported discrepancies at MAFB. When the discrepant hardware is retested at MAFB, the FSRR will be written, transmitted to Seattle, and analyzed in succeeding summary reports.

Location

LF K-2	FSRR -648R - Telephone Repeater, P/N 1274175-501, S/N 0000070.
LF K-8	FSRR -649R - Telephone Repeater, P/N 1274175-501, S/N 0000102.
LF G-9	FSRR -662R - Telephone Repeater, P/N 1274175-501, S/N 0000075.
LF L-6	FSRR -663R - Telephone Repeater, P/N 1274175-501, S/N 0000131.

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Figure A 1306 - Telephone, TA-466/GTC-8

Primary Failure Events

Location

Unk.	FSRR -7R (11-12-62) - Telephone, P/N 1274025-501, caused a 1/2-amp fuse to blow in the Fig. A 1303 Repeater, Telephone Set, S/N 0000021. Failure caused by shorted "hang" switch. Problem corrected by RCA.
LF B-6	FSRR -20R (12-10-62) - Telephone, P/N 1274025-501 caused a 1/2-amp fuse to blow in the Fig. A 1303 Repeater, Telephone Set, S/N 0000020. Failure caused by shorted "hang" switch. Problem corrected by RCA.

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Figure A 1337 - Distribution Box

Secondary Failures

Location

LF A-5	FSRR -51R (12-29-62)	Safe Arm Module 25-31189-1; Safe Arm motor would not move to ARM position. Assumed due to shut-down of DAC equipment (Fig. A 1251) when Safe & Arm Module is locked in the SAFE position.
LF D-7	FSRR -293R (2-27-63)	
LF F-10	FSRR -381R (3-29-63)	

Miscellaneous

Location

LF E-07      FSRR -641R (6-11-63) - Safe & Arm Module 25-31189-1. This failure occurred during the test of the incorporation of ECP 584. The exact mode of failure is not known and may never be known since the Safe & Arm module is tamper-proof. From available information, it can be deduced that the switch motor is inoperative. From failure analyses at Seattle on other modules, the only known cause of motor failure is loss of Safe Tone when the switch is mechanically held in the SAFE position. The exact cause of this failure is unknown but there are two possibilities: (1) during check-out of ECP 584, switch S-2 on ACO 352 was not positioned (contrary to instructions) to provide Safe Tone for an indefinite period of time; (2) the motor had already burned-up because of the cumulative time effects associated with loss of Safe Tone during maintenance operations.

In Process

Location

LF D-10      FSRR -485R (4-25-63) - Safe & Arm Module 25-31189-1 suspected but not proven faulty.

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Figure A 1364 - Repeater, Telephone Set, AN/GTC-11

Personnel or Test Error

Location

LCF A-1 UER 197763 (5-28-63) - In Drawer A-6, P/N 8324410-501, resistor R20 burned on Module A-8, P/N 8619801-501. Failure probably caused by ground-referenced VTVM.

Figure A 1365 - Repeater, Telephone Set, AN/GTC-12

Primary Failures

Location

Unknown UER 038489 (4-27-63) - With a sine wave input on pins 9 and 11 of Module A5, P/N 8619801-501; the output at pins 32 and 35 is clipped. Additional information regarding Module A5 is unavailable. No information is given on the drawer, P/N 8324410-501, associated with Module A5. Disposition of drawer and module unknown.

Figure A 1366 - Repeater, Telephone Set, AN/GTC-13

Primary Failures

Location

LCF F-1 UER 156456 (5-24-63) - Improper frequency reading from amplifier A12, P/N 8619801-501. Suspect bad resistor (reference symbol unknown).

Personnel or Test Error

Location

Unknown UER 097996 (5-22-63) - Output of Amplifier A5, P/N 8619801-501 is weak and distorted. R20 resistor burned.  
UER 097994 - Resistor R1 of the DC power filter network is burned.  
Most probable cause of this event is site acceptance test procedures not being followed correctly (improper use of ground-referenced VTVM).

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Figure A 1367 - Motor Generator Set, LCF

Secondary Failures

Location

- LCF B-01 FSRR -52R (12-20-62) - M-G Set S/N 0000008, Brush Lifter Solenoid P/N 36A281475-001, failed and dropped the brushes while the M-G Set was operating on AC power. Four noise filters were ruptured and associated wiring and connections were badly burned.
- LCF B-01 FSRR -66R (1-5-63) - M-G Set S/N 0000017, Brush Lifter Solenoid P/N 36A281475-001, failed and dropped the brushes while the M-G Set was operating on AC power. The Montana Power Co. replaced the line transformer serving this site.
- LCF B-01 FSRR -242R (2-23-63) - M-G Set S/N 0000017, Brush Lifter Solenoid P/N 36A281475-001, was stuck in the down position and insulation on the connecting wiring was burned.
- LCF B-01 FSRR -429R (3-5-63) - M-G Set S/N 0000021, Brush Lifter Solenoid P/N 36A281475-001, failed.
- LCF F-01 FSRR -394R (3-24-63) - M-G Set S/N 0000021, Brush Lifter Solenoid failed. During removal of the solenoid, secondary failures resulted when the lead to the DC motor shunt field was cut by mistake allowing M-G to run at excessive speed.

Brush Lifter Solenoid failures are the result of a low supply voltage brought about when switching from DC to AC power. Voltage drops which occur concurrently reduce the voltage to the solenoid to a value less than that required to pick up the lifter mechanisms. The energized solenoid overheats to destruction. Contributing to these failures is inadvertent cadmium plating of the lifter mechanism movable surfaces.

ECP 602 has been approved to provide undervoltage sensing of Phase A. FCR 235 has been approved to connect the battery charger across Phase B instead of Phase A thus reducing the voltage drop on Phase A caused by the battery charger.

All motor generator sets in use have had the solenoid mechanisms lubricated thus reducing the possibility of binding mechanisms as a result of inadvertent cadmium plating.

Figure A 1367 (cont'd)  
Page 2 of 2

Handling

Location

Unknown FSRR OOAMA-29 (5-16-63) - Motor-Generator Set S/N 0000013 arrived at the depot in a damaged condition as a result of crating deficiencies.

Miscellaneous

Location

Unknown FSRR OOAMA-39 (unknown) - Motor-Generator Set S/N 0000002 returned to OOAMA for repair. Functionally tested to the procedure without failure. Visual inspection indicated that the DC input plug insulator was broken.



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Figure A 1368 - Radio Set Group

Primary Failure Events

<u>Location</u>	
LCF A-01	FSRR -29R (11-15-62) - Receiver/Exciter, P/N 666208-021 out of alignment.
LCF B-01	FSRR -107R (12-19-62) Power Amplifier, P/N 666208-231 malfunctions and blows fuses due to bad electrical contacts on turret, P/N 25-27506. NOTE: ECP 466 has been released to minimize the recurrence of this type of failure.
LCF B-01	FSRR -285R (3-6-63)
LCF C-01	FSRR -365R (3-22-63) - Receiver/Exciter, P/N 666208-021 blows fuses because of short in high voltage lead.
LCF A-01	FSRR -380R (4-2-63) - Circuit breaker would not remain closed on HF power amp. P/N 666208-321. Problem was defective pusher tube V2 and transistor Q7.
LCF C-01	FSRR -418R (4-6-63) - Receiver/Exciter, P/N 666208-021 inoperative due to stuck relay.
LCF F-01	FSRR -419R (4-5-63) - Power Amplifier, P/N 666208-231 inoperative due to defective tube and transistor.
LCF F-01	FSRR -513R (4-15-63) - Receiver/Exciter, P/N 666208-021 will not receive or transmit below omc.
LCF C-01	FSRR -493R (4-18-63) - Both power amplifiers, P/N 666208-231 inoperative due to defective tubes.
LCF G-01	FSRR -555R (5-7-63) - UHF Power Amplifier, P/N 522-2602-00 would not tune. Caused by stuck pawl on auto positioner.
LCF J-01	FSRR -595R (5-28-63) - HF Power Amplifier, P/N 666208-231 continually blew fuses. Trouble was defective PA tube.
LCF D-01	FSRR -636R (6-6-63) - 250 volt power supply blew fuses repeatedly. Short was found on the 250 volt pin of RF Subassembly P/N 666165-250.

Figure A 1368 (Cont'd)

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Personnel or Test Error

Location

LCF F-01      FSRR -550R (5-14-63) - Receiver/Exciter Unit, P/N 666208-021  
gave weak reception. Both RF and AF gain  
controls were found to be set low.

In Process

Location

LCF F-01      FSRR -421R (4-9-63) - Receiver/Exciter, P/N 666208-021  
inoperative. Reason not presently known.

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Figure A 1379 - Battery Charger Alarm Set

In Process

Location

LF C-09      PSRR -527R (5-7-63) - Low storage battery voltages in Launch Facility No. 9 was determined to be the result of a faulty battery charger. The battery charger was sent to OOAMA for investigation.

OPERATIONAL DATA - 341st SMW  
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Figure A 1412 - Voice Reporting Signal Assembly

Primary Failures

Location

The following failures were caused by broken tape rewind springs in Reproducer P/N 09621500-601B. All are old type springs, that is, not teflon coated. SCP 12 replaces all old style springs with new longer life teflon-coated springs.

LF A-11	FSRR -8R (11-17-62) OOAMA Addendum -8R
LF A-07	FSRR -36R (12-26-62) OOAMA Addendum -36R (2 addenda)
LF B-05	FSRR -58R (1-6-63)
LF A-05	FSRR -154R (1-6-63)
LF B-05	FSRR -74R (1-13-63) OOAMA Addendum -74R
LF B-10	FSRR -249R (2-22-63)
LF F-03	FSRR -247R (2-23-63)
LF F-11	FSRR -340R (3-18-63)
Unknown	FSRR OOAMA-19 (4-29-63)
Unknown	FSRR OOAMA-24 (4-2-63)
Unknown	FSRR OOAMA-25 (5-2-63)
LF D-10	FSRR -515R (5-1-63)
LF H-03	FSRR -619R (6-4-63)

VRSA sticking on one or several channels. Repeated playing of the channel causes part wear-out:

LF B-02	FSRR -38R (12-26-62) - Tape Motor bearings replaced. OOAMA addendum -38R
LF B-05	FSRR -54R (1-3-63) - stuck channel.
LF B-09	FSRR -67R (1-6-63) - no readout.
LF A-03	FSRR -208R (1-22-63) - adjusted S4 and S5.

Figure A 1412 (cont'd)  
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Primary Failures (cont'd)

Location

LF C-09 FSRR -155R (1-28-63) - no readout; adjusted S4 and S5.  
LF A-07 FSRR -207R (1-31-63) - no readout; stuck channel.  
LF B-11 FSRR -218R (1-31-63) - stuck channel intermittent; adjusted S4 & S5.  
LF F-02 FSRR -273R (3-2-63) - no readout; adjusted S4 and S5.  
341st. FSRR -271R (3-4-63) - no readout; bad spring on throwout gear.  
C&E  
LF C-11 FSRR -279R (3-5-63) - no readout channels 6/40. Adjusted S4 & S5.  
LF B-08 FSRR -305R (3-12-63) - stuck channel 6; adjusted S4 and S5.  
LF C-02 FSRR -302R (3-12-63) - intermittent, reads wrong channel, adjusted S4 and S5.  
LF A-09 FSRR -325R (3-18-63) - stuck channel, retested good. Sent back to site. Unit in for repair for sixth time.  
LF F-03 FSRR -326R (3-18-63) - no readout.  
LF A-05 FSRR -339R (3-19-63) - no readout, retested good.  
LF A-03 FSRR -351R (3-23-63) - erratic operation.  
LF G-09 FSRR -382R (3-29-63) - sticks on channel 32, retest good.  
LF H-02 \*FSRR -306R (3-29-63) - sticks on channel 5; Step-Down Sequence Card P/N 09621406-1.  
LF G-09 \*FSRR -404R (4-6-63) - failed again, same problem one week later at site G-09. Relay P/N 09621110-1.  
  
\* Two failures are on the same unit.  
LF C-05 FSRR -392R (4-3-63) - sticks on channel 21.  
LF E-03 FSRR -350R (3-21-63) - intermittent sticks on channel 40. Motor bearings bad; new motor.  
LF D-07 FSRR -422R (4-9-63) - sticks on channels 21/40. No output on channels 1/20. Broken spring, Q9 open.  
LF C-03 FSRR -420R (4-10-63) - stuck channel. Adjusted S4.

Primary Failures (cont'd)

Location

LF A-11 FSRR -423R (4-9-63) - stuck channel 5. Shop could not cause sticking to re-occur. Sequence Step-Down Card P/N 09621406-1.

LF B-07 \*FSRR -366R (3-25-63) - sticks channel 40; replaced broken spring.

LF C-09 \*FSRR -315R (3-27-63) - sent to site C-9. Failed again, same indication. Replaced relay P/N 09621406.

\*The above two failures are on the same unit.

LF C-09 FSRR -266R (1-28-63) - intermittent stuck channel. Retested good at SMSB.

LF F-04 FSRR -326R (3-18-63) - sticks on channels 3 - 40.

LF D-07 FSRR -463R (4-13-63) - sticks on channel 27.

LF C-07 FSRR -464R (4-24-63) - sticks on channel 5.

LF F-10 FSRR -465R (4-26-63) - sticks on channel 27.

LF C-03 FSRR -486R (4-25-63) - sticks on channels 6 and 12.

LF G-09 FSRR -424R (4-13-63) - sticks on channels intermittently.

LF E-11 FSRR -487R (4-23-63) - VRSA intermittent readout.

LF D-05 FSRR -489R (4-27-63) - VRSA intermittent readout.

LF E-05 FSRR -488R (4-28-63) - sticks on channels 5 and 21 - 40.

LF A-04 FSRR -490R (4-28-63) - VRSA operates intermittently.

LF G-09 FSRR -491R (4-28-63) - sticks on channel 5.

LF D-07 FSRR -516R (5-3-63) - sticks on channel 25.

LF K-11 FSRR -551R (5-8-63) - sticks on channel 6.

LF A-10 FSRR -552R (5-8-63) - sticks on channel 5.

LF E-5 FSRR -543R (5-12-63) - VRSA inoperative. Adjust switches S3, S4, S5.

LF C-7 FSRR -548R (5-3-63) - stuck on channel 6.

LF B-5 FSRR -565R (5-15-63) - stuck on channel 5.

Primary Failures (cont'd)

Location

LF A-11 FSRR -567R (5-15-63) - stuck on channel 29. Adjust switch S5.  
LF B-03 FSRR -615R (5-31-63) - operation intermittent. Adjust switches S4 and S5.  
LF B-02 FSRR -616R (6-3-63) - stuck on channel 5. Adjust switches S4 & S5.  
LF B-02 FSRR -635R (6-6-63) - stuck on channel 5.  
LF G-05 FSRR -647R (6-13-63) - sticks on channels 2 - 20. Motor failed before the test was complete.

Note: Sticking on channel attributed to mis-adjustment of S4 and S5 switches in audio-reproducer P/N 09621500-601C. ECP 637 to make adjustment of switches less critical has been initiated and is being considered by BSD/STL.

Ledex switch failures, P/N 149465-001:

LF B-05 FSRR -87R (1-15-63) - switch frozen.  
OOAMA addendum -87R  
Unknown FSRR OOAMA-15 (3-26-63) - no information.  
Unknown FSRR OOAMA-20 (4-30-63) - no information.  
LF F-07 FSRR -492R (4-30-63) - switch burned.  
LF K-02 FSRR -542R (5-12-63) - switch burned.

Reproducer P/N 09621500-601C - motor failure P/N 156A103:

LF A-03 FSRR -12R (11-17-62) - motor intermittent.  
OOAMA Addendum -12R  
LF A-10 FSRR -16R (12-10-62) - field winding low resistance.  
OOAMA Addendum -16R

Note: Burned-out motor also reported on -8R.

Unknown FSRR OOAMA-17 (4-26-63) - no information.  
Unknown FSRR OOAMA-18 (4-29-63) - bearing failure.  
LF F-04 FSRR -324R (3-18-63) - bad motor.  
LF E-03 FSRR -544R (5-12-63) - failure of Tape Drive Motor.

Primary Failures (cont'd)

Location

LF C-04 FSRR -549R (5-13-63) - Audio Reproducer Motor run slow.  
LF C-10 FSRR -599R (5-27-63) - motor fails to operate.  
LF H-02 FSRR -621R (6-4-63) - motor inoperable.  
Unknown FSRR OOAMA-36 (6-17-63) - motor running slow.  
Unknown FSRR OOAMA-37 (6-17-63) - motor running slow.  
Unknown FSRR OOAMA-38 (6-17-63) - motor running slow.

Floating Spur Gear failure, P/N 09621752-1:

LF B-06 FSRR -512R (4-30-63) - turns freely both directions.  
LF F-07 FSRR -514R (5-1-63) - turns freely both directions.

Converter Input Signal card failure:

LF F-07 FSRR -294R (2-18-63) - P/N 09621150-601A (PCA-2), also had broken tape.  
LF C-05 FSRR -295R (2-27-63) - P/N 09621200-601A (PCA-3).  
Unknown FSRR OOAMA-21 (4-30-63) - P/N 09621150-601 (PCA-2).

Miscellaneous Primary Failures:

LF A-02 FSRR -11R (11-21-62) - VRSA inoperative.  
LF B-07 FSRR -55R (1-3-63) - no readout, tape limit switch jammed.  
LF A-10 FSRR -112R (1-10-63) - loose tape.  
LF A-10 FSRR -13R (11-17-62) - no readout. Cleaned excess carbon from over speed contacts tape motor drive.  
LF A-11 FSRR -451R (4-11-63) - burned circuit card, Audio-Reproducer "B", P/N 09621500-601C.  
Unknown FSRR OOAMA-22 (4-30-63) - Audio-Reproducers "A" and "B" inoperative, P/N 09621500-601B.



Figure A 1412 (cont'd)  
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Primary Failures (cont'd)

Location

Unknown FSRR OOAMA-23 (5-2-63) - no information as to original failure.  
Tested good at OOAMA.

LF F-07 FSRR -541R (5-12-63) - high resistance switch S5 on Audio-Reproducer,  
P/N 09621500-601C.

LF B-07 FSRR -566R (5-15-63) - worn nylon idler gear.

LF G-02 FSRR -530R (5-10-63) - inoperative channels 6 - 40.

LF B-06 FSRR -564R (5-15-63) - could not be interrogated.

LF H-06 FSRR -620R (6-4-63) - broken tape.

Unknown FSRR OOAMA-34 (date unkn.) - Audio-Reproducer diode CR9 bad.

LF H-04 FSRR -592R (5-24-63) - loose screws holding down Sequence Step-Down  
card caused poor connections.

Replaced Assembly Retested Good

Location

LF A-03 FSRR -104R (1-16-63) - P/N 09621000-602A. No readout. Retest good.

In Process

The following FSRR numbers have been assigned to AFTO 211 reported discrepancies at MAFB. When the discrepant hardware is retested at MAFB, the FSRR will be written, transmitted to Seattle, and analyzed in succeeding summary reports.

Location

LF H-02 FSRR -660R (6-17-63) - would not step down.

LF A-03 FSRR -661R (6-17-63) - no readout.

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Figure A 1600 - Door, Launcher Personnel, Access, Primary

Primary Failure Events

Location

As stated June 1-4, 1963, FSRR-639R covers the following failures,  
at the following sites.

LF A-02	}	"O" ring weather seal in Personnel Access Hatch damaged or missing.
LF B-04		
LF B-05		
LF C-11		
LF D-05		
LF A-07	}	RFI Shield in Personnel Access Hatch damaged or missing.
LF B-04		
LF B-05		

OPERATIONAL DATA - 341st SMW

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Figure A 1603 - Piping & Control Set, Hydraulic, Launcher Personnel Access

Primary Failures

Location

- LF A-10      FSRR -182R (2-5-63) - The four-way hydraulic valve, P/N T-CP-R13, did not operate. There was excessive rust in the valve housing and the solenoid case was melted and cracked.
- LF C-06      FSRR -183R (1-17-63) - Same as -182R above.
- LF A-09      FSRR -184R (2-5-63) - The four-way hydraulic valve, P/N T-CP-R13, leaks oil. There was excessive rust in the valve housing.

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Figure A 1605 - Actuator, Electro-Mechanical, Linear

Primary Failure Events

Location

As stated June 1-4, 1963, FSRR-639R covers the following failures, at the following sites.

LF A-09	}	Filter, P/N 356, Secondary Door, burnt and inoperative.
LF A-10		
LF A-11		
LF B-04		

Handling

Location

LF A-03 FSRR MAFB -341 SMW -135 (1-15-63) - The Secondary Door Actuator, P/N 3037-1101 was damaged by forcing the door with the auxiliary drive.

Figure A 1606 - Wiring and Control Set, Electrical, Launcher

Primary Failure Events

Location

As stated June 1-4, 1963, FSRR -639R covers the following failures at the following sites.

LF B-09	}	Switches in Security Pit (Primary and Secondary Door) reported to be inoperative or intermittent. No further information.
LF C-05		
LF G-05		
LF H-09		

OPERATIONAL DATA - 341st SMW

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Figure A 1608 - Security Pit Vault Door

Primary Failure Events

Location

Unk. FSRR -540R (5-20-63) - Door, vault, security pit, P/N 3037-1015.

The following six (6) items, P/N 3037-1015, were taken from Figure A 1608 installations at unidentified launch facilities. A cross reference search of serial numbers with AFTO 211s did not yield the actual failure event dates or identity of launch facilities involved. It is assumed that each failed item reflects a discrete failure event of the Figure A 1608.

S/N DDD001, repaired by MIMS and found to have a badly worn cam for retracting the locking pins.

S/N DDD0061, repaired by MIMS and found to have a dirty and sticking tumbler, P/N 3037-1552, S/N 11061.

S/N DDD0098, repaired by MIMS and found to have a dirty and sticking tumbler, P/N 3037-1552.

S/N DDD0125, repaired by MIMS and found to have a loose phillips screw in the locking mechanism. The screw had been lost from an electrical connector..

S/N DDD0030, would not accept the combination. Repair action by MIMS is unobtainable as the Shop Log was lost.

S/N DDD0051 also a like case of lost Shop Log as cited above.

As stated FSRR -467R (27 thru 29 May 1963)

The following combination locks were taken from the Vault Door, P/N 3037-1015. In four of the five following failures, contamination was the cause of the failure. The locks were found to be corroded with alkali deposits which caused the mechanism to stick.

LF F-05	Contaminated
LF L-05	Contaminated
Unk.	Contaminated
Unk.	Contaminated

Primary Failure Events (Cont'd)

Location

LF ?-09 Vault Door, S/N DDD0088 operates intermittently. The combination lock P/N 180-12, S/N 222165, has been disassembled and found to contain loose screws. These screws had worked loose from the brass adapter that fits on top of the locking cam, P/N 3037-1534.

As stated FSRR -639R (1 thru 4 June 1963)

LF A-2	}	Damaged or missing weather seals.
LF D-5		
LF G-2		
LF C-11		

Handling

Location

LF B-05	FSRR -121R (1-23-63) - In the Vault Door P/N 3037-1015, the combination lock was inoperative. The door seals and lock cover were missing and the locking handle was bent; obviously, having been beaten with a hammer.
LF B-07	FSRR -122R (1-24-63) - The combination lock was inoperative. The seals had been removed from the door allowing moisture to enter and corrode the locking mechanism.
LF B-06	FSRR -158R (1-29-63) - The Vault Door fell into the personnel access hatch.
LF B-04	FSRR -159R (1-29-63) - The combination lock could not be turned. There were hammer marks around the lock, the threads on the shaft were stripped and the set screw was sheared.
LF C-04	FSRR -160R (1-29-63) - Same as -159 above.
LF D-06	FSRR -312R (3-14-63) - The combination lock could not be operated. The tool used to change the combination was broken off in the lock.

Figure A 1608 (Cont'd)  
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Personnel or Test Error

Location

- LF B-11      FSRR -189R (1-24-63) - The Vault Door would not seat. Maintenance team not familiar with the emplacement shims, nor were allowances made for critical combination lock settings.
- LF A-03      FSRR -192R (2-6-63) - Maintenance Team could not operate lock. The circumstances of hardware rejection are similar to Report #189 above.

Replaced Assembly Retested Good

- LF B-04      FSRR -310R (3-17-63) - The Vault Door passed re-test in the Missile Maintenance Squadron (MIMS) mechanical shop. It is felt that the Vault Door may have been cocked from interference with the Personnel Access Hatch Lock Pin, or from debris that had lodged in the seal bearing surfaces.
- LF C-05      FSRR -311R (3-14-63) - The Vault Door passed re-test in the MIMS mechanical shop. The circumstances of hardware rejection are similar to Report #310R above.

Miscellaneous

- LF C-03      FSRR -309R (3-16-63) - A plastic piece mounted upon the lock shaft was loose and out of position, and would not engage with the lock dog. The position of the plastic was changed by tightening the adjustment of set screw.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 3007 - Test Set, Explosive Set Circuitry

Primary Failure Events

Location

SMSB	FSRR -119R (1-21-63) - 25-27392-1, Test Set would not pass self test per T.O. 21SM80A-18. OOAMA Addenda stated that only recalibration was necessary.
SMSB	FSRR -169R (2-4-63) - 25-27392-1, Resistance meter would not null. OOAMA Addenda stated that only recalibration was necessary.
SMSB	FSRR -186R (2-5-63) 25-27392-1, Resistance control could not be set to give a zero reading. OOAMA Addenda stated that R37 and R71 adjustments were made.
SMSB	FSRR -187R (2-6-63) 25-27392-1, Would not pass self test. Recalibrated at OOAMA.
SMSB	FSRR -193R (2-8-63) 25-27392-1, Current meter inoperative. Jewels replaced at OOAMA. Set also required recalibration.

Miscellaneous Events

SMSB	FSRR -1R (11-8-62) - 25-27392-1, Selector switch (S-3) knob loose.
SMSB	FSRR -232R (2-17-63) - 25-27392-1, Battery weak.

In Process

SMSB	FSRR -664R (6-17-63) - Test set inoperative. No information regarding mode of failure is available at this time.
------	--



OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 3092 - Test Set, Programmer Group

Primary Failures

The following two units were routed to the SMSB for calibration. Per test requirements, voltage should change when trimpot adjustment is made. Results could not be realized in both cases.

Location

SMSB FSRR -528R (5-9-63) - Module 25-29109-1, R6 (BAC R14WY102).

SMSB FSRR -572R (5-17-63) - Module 25-29108-1, R2 (BAC R14WY102).  
Module 25-29109-1, R6 (BAC R14WY102).

The above two modules were sent to OOAMA for repair. No additional data is available.

Miscellaneous

Location

SMSB FSRR -213R (1-7-63) - calibration only, no malfunction.

SMSB FSRR -214R (1-7-63) - calibration only, no malfunction.

In Process

The following FSRR number has been assigned to AFTO 211 reported discrepancy at MAFB. When the discrepant hardware is retested at MAFB, the FSRR will be written, transmitted to Seattle, and analyzed in succeeding summary reports.

Location

SMSB FSRR -598R - P/G Test Set P/N 25-26825-4, S/N 0000011.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 3109 - Test Set, Alarm Set

Primary Failures

Location

SMSB      FSRR -215R (2-12-63) - Fault Locator Alarm Set, Assembly number 25-26829-1, A-7 Module 25-34444-1, Q1 (P/N 2N1174) shorted. A-2 Module 25-32403-1, R1 (P/N 443-0377-724) burned. ECP 532 has been released completely redesigning module 25-34444-1. The new module is 25-38361. Retrofit is being accomplished.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 4012 - Test Set, Data Analysis Central, AN/GYM-1

Primary Failure Events

Location

SMSB FSRR -94R (1-14-63) - Fig. A 4012 failed self test boards SV/1B, SV/1D and SV/1E. The test set was sent to OOAMA for repair. No details given.

SMSB FSRR -120R (1-22-63) - P/N 8747092-501, shorted diode, P/N 8935922-1, on Diode Unit A152, P/N 8747092.

LF A-3 FSRR -221R (2-14-63) - Diode Units A120, 130, 140, and 141, P/N 8324154-502, are defective - no details given.

Unk. UER 068759 (2-16-63) - Open diode, P/N 8935922-1, on Diode Unit A15, P/N 8747092-501.

Unk. UER 135217 (3-2-63) - Diode Unit A141, P/N 8747092-501 has a shorted diode, P/N 8935922-1, between pins 11 and 23.

UER 135218 - Diode Unit A142, P/N 8747092-501 has shorted diodes, P/N 8935922-1, between pins 14 and 2, 15 and 3.

UER 152700 - Diode Unit, P/N 8747092-501 has an open diode between pins 11 and 23.

UER 135222 - Diode Unit A120, P/N 8747092-501 had pins 20 and 8 shorted together.

Unk. UER 143899 (3-18-63) - Module A18, P/N 8624095-501, has a negative output, it should be a positive output.

Unk. UER 186402 (4-20-63) - Diode Unit A142, P/N 8747092-501, has a shorted diode between pins 1 and 13.

Handling

Location

LF L-5 FSRR -30R (12-18-62) - Case No. 4, P/N 8324156-501, dropped down Personnel Access shaft. Extensive damage resulted to Amphenol boards.

FSRR's -31R, -32R, -33R, -34R, -35R - Broken amphenol boards - sent to OOAMA for repair.

Personnel or Test Error

Location

- Unk. FSRR -357R (4-9-63) - Fig. A 4012, S/N 0000025 returned from field in a defective condition - would not pass self test. Eight modules, P/N's one each 8624096-501, five each P/N 8747092-501, two each P/N 8761702-501 returned to RCA. Suspect that Fig. A 4012 was disconnected from the SCN rack and then reconnected without removing power from the racks on Fig. A 4012.
- Unk. UER 097988 (5-22-63) - Cable #721, P/N 8625721-501 has an open wire.

Replaced Assembly Retested Good

Location

- LF A-3 FSRR -220R (2-14-63) - Fig. A 4012; S/N 0000017 supposedly failed self test. No malfunction discovered by the SMSB personnel.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 4018 - Adapter Group, Test

Primary Failure Events

Location

SMSB	*UER 148771 (2-15-63) UER 135178	- Programmer, Test Adapter 25-28170 has "bridging" stepping switches and broken diodes. Removed and replaced switches and diodes.
SMSB	UER 144075 (4-6-63) (UER 186345)	- Unit failed self-check. Module A-20, P/N 8624535-501 of Signal Generator 1193071-59 found defective. No further information.
SMSB	FSRR -495R (4-27-63)	- Waveform Converter Drawer P/N 1193072-501, S/N 0000009 fails self test. Found to have three defective modules A-11, A-12, and A-15. Modules sent to OOAMA. No further information.
SMSB	FSRR -496R (5-7-63)	- Reference Signal Generator 1193071-501, S/N 0000009 failed self test. Found to have a defective printed circuit assembly, P/N 8624525-501, S/N 0000017. Module sent to OOAMA. No further information.
SMSB	FSRR -546R (5-10-63)	- Waveform Converter Drawer CV-1251/GYK-2 caused fuse to blow on the C-91 while being checked. Cause found to be voltage "spikes" caused by the inductive "kick" of relay coils in the waveform converter. ECP OED 274 being processed to add suppression diodes.

Miscellaneous

Location

SMSB	FSRR -561R (5-20-63)	- Reference Signal Generator Drawer, P/N 1193071-501, failed initial self-test. Module A-8, P/N 8624525-501, wiring found incorrect.
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\* This UER transferred into Operational from A&CO data since the May 29<sup>th</sup> report.

Figure A 4018 (Cont'd)  
Page 2 of 2

Miscellaneous (Cont'd)

Location

SMSB      FSRR -637R (6-7-63) - Waveform Converter Drawer, P/N 1193072-501,  
failed during unit self test, Module A-8,  
P/N 8622911-501 found defective and sent  
to OOAMA. No further information.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 4031 - Truck, Mechanical Maintenance

Primary Failures

FSRR -123R (1-17-63) - The boom extension and cable control motors P/N 10107 were inoperative. There was an unconfirmed report indicating that the equipment may have been misused.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 4043 - Elevator Work Case

Primary Failure Events

Location

Unk. FSRR -147R (1-25-63) - 25-18099-1, Lock pins missing. Secure rings inadequate.

There are 5 reports of cannon plugs being broken. The reports indicate that this plug is easily damaged in normal handling.

Unk. FSRR -149R (12-30-62)

Unk. FSRR -152R (1-31-63)

Unk. FSRR -188R (3-18-63)

Unk. FSRR -372R (5-8-63)

Unk. FSRR -372R (5-15-63)

MIMS (13) FSRR -327R (3-18-63) - 13 events reported. Cracks in welded joints. ECP 392 and ECP 7508 plus closer control of the welding process and inspection should correct this problem.

Unk. FSR -234F (4-15-63) - Telephone switch inoperative.

Unk. FSR -234F (4-19-63) - Level wind mechanism inoperative.

There are 3 reports of diode (P/N 1N538) failures:

Unk. FSRR -372R (5-16-63) - Fig. A S/N 0000028

Unk. FSRR -372R (5-8-63) - Fig. A S/N 0000032

Unk. FSRR -372R (5-8-63) - Fig. A S/N 0000050

Unk. FSRR -372R (5-4-63) - Limit switch inoperative.

Unk. FSRR -372R (5-11-63) - Relay (K-1) inoperative.

Unk. UER 156414 (5-22-63) - Cable Drum (P/N GS4545) cracked

Handling

Location

Unk. FSRR -148R (12-7-62) - 10-20862-5, equipment room pendant damaged.



Figure A 4043 (Cont'd)  
Page 2 of 2

Handling (Cont'd)

Location

Unk. FSRR -150R (1-31-63) - GS 4561, relay box damaged when hoist was dropped.  
Unk. FSR -234F (4-15-63) - Cable connector pins bent.  
Unk. FSRR -372R (5-15-63) - Motor wiring broken.  
Unk. FSRR -372R (5-7-63) - Roller plate bolts broken.

Miscellaneous

Location

Unk. FSR -234F (4-19-63) - Connector missing.  
Unk. FSRR -372R (5-6-63) - Communication J-Box switch missing.  
Unk. O FSRR -372R (5-8-63) - Loose wire on K-3 relay.

In Process

Location

MIMS FSRR -328R (3-14-63) - Work cage inoperative.  
MIMS FSRR -332R (3-27-63) - Work cage inoperative.  
Unk. FSR -234F (4-9-63) - W-4 cable inoperative.  
Unk. FSR -234F (4-11-63) - W-4 cable inoperative.  
Unk. FSR -234F (4-15-63) - Hoist cable inoperative.  
Unk. FSR -234F (4-16-63) - Hoist cable inoperative.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 4059 - Semi-Trailer, T-E

Primary Failure Events (4)

~~EUR~~  
~~UER~~ 341SMW 63-26 (2-28-63) - Four units S/N's 0000007, 0000008, 0000009, 0000011 experienced cracked or buckled carriage to container tie down plates. Failures were attributed to hydraulic fluid expansion in the erection cylinders. ECP B&MD 153 proposes addition of a pressure relief valve to the transporter-erector hydraulic elevating system to reduce pressure build up in these cylinders.

Miscellaneous Failures

UER 057951 (5-8-63) - Bolt, NAS 1304-15, sheared. Connects Cessna P/N 4711015-93 and -61 angles. Replaced bolt. Condition found during structural inspection per KECP 7514/1.

UER 057844 (4-25-63) - King Pin, Cessna P/N 4711092-23 heat treated to excessive hardness creating a hazard due to brittleness. (King Pin connects T-E to tractor.) Condition found during inspection per KECP 7504.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 4105 - Gearcase Motor

Primary Failure Events

Location

Unk. FSRR -461R (4-24-63) - P4A12041 & P4A12042, five failures were reported on this report. The power relays failed due to heat and arcing of contacts.

Unk. (2 events) FSRR -369R (5- -63) - Bearings (P/N 3011M9-1) hot, noisy and leaking grease. Two failure events of Fig. A equipment reported.

Handling

Location

Unk. FSRR -86R (1-8-63) - MS-3106E22-18R, cannon plug broken

Unk. FSRR -369R (5-7-63) - P/N unknown, Cannon plug broken.

Unk. FSRR -124R (1-15-63) - P100E2-1A, power control case damaged.

Unk. FSRR -191R (2-6-63) - Relay box cover bolts broken.

Unk. FSRR -190R (2-6-63) - Lifting bracket bolt broken.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 4252 - Code Inserter-Verifier

Primary Failure Events

<u>Location</u>		
SMSB	FSRR -23R (12-8-62) - FSTR -24FT	Actuating lever guide bar in Reader Assembly 29-26273-2 was broken.
SMSB	FSTR -4FT (1-23-63) -	Intermittent operation of Launch Control Coder drawer, KY-437/GSQ-65 caused by cold solder joint.
SMSB	FSRR -185R (2-6-63) - FSTR -5FT	Mechanical Coder Unit, P/N 25-32991-1 could not be removed from Launch Control Coder unit because of bent and broken pins.
SMSB	FSRR -275R (3-5-63) - FSTR -14FT	The Verifier Unit Reader and Functional Assembly P/N 25-32993-1 malfunctioned during encoding practice. Failure analysis has shown that the malfunctions were caused by circuit discontinuities caused by workage of the reader assembly frames (due to loose guide pins), and damaged reader pin tips.
SMSB	FSTR -24FT (4-18-63) -	The Verifier Unit Reader and Functional Assembly, P/N 25-32993-1 gave a "No-Go" during functional test. Malfunction could not be induced during test.
SMSB	FSRR -480R (4-24-63) -	Verifier Unit, P/N 25-32993-1, gave "No-Go's" during functional test. Unit sent to OOAMA for repair. No retest data.
SMSB	FSRR -560R (6-5-63) -	Mechanical coder Unit P/N 25-32991-1 could not be removed from launch control coder unit due to sheared code - set pin being caught in the MCU

The following events in the Verifier Unit, P/N 25-32987-1 were caused by failures in the Command Signals Decoder portion P/N 25-32987-1 of the Code Inserter-Verifier Unit. No details are available on the failure within the decoder.

SMSB	FSTR -22FT (12-7-62) -	Printed circuit card, P/N 25-34116-1 has burned out printed wiring.
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Figure A 4252 (Cont'd)  
Page 2 of 2

Primary Failure Events (Cont'd)

Location

SMSB	FSRR -194R (12-11-62)	- Printed circuit card, P/N 25-34116-1 has burned out printed wiring.
SMSB	FSRR-00AMA-6 (1-31-63)	- Printed circuit card, P/N 25-34118-1, has burned out wiring.
SMSB	FSRR-00AMA-7 (2-4-63)	- Printed circuit card, P/N 25-34116-1 has burned out printed wiring.
SMSB	FSTR -21FT (4-5-63)	- Two cards, P/N 25-34116-1, and card 25-34510-5 have burned out printed wiring.
	FSTR's -22T, and -23T.	

Miscellaneous

Location

SMSB	FSTR -6FT (11-13-62)	- Handle of the X' Manual Code Pack Reader, P/N 29-26273-2 was difficult to operate due to inadequate lubrication.
SMSB	FSRR -53R (1-2-63) FSTR -2T	- Actuating lever guide bar in Reader Assembly, P/N 29-26273-2, was broken due to excessive length of screws used in the assembly which gouged the drawer structure and placed excessive stress on the drawer handle.
SMSB	FSRR -134R (1-24-63) FSTR -15FT	- Code set knob binds on the launch control coder, P/N 25-32991-1. Lubrication and adjustment cleared trouble.
SMSB	FSRR -303R (3-11-63)	- X', Y' and X' assemblies of Verifier Unit, 25-32993-1 experienced trouble with mechanical binding. Lubrication and adjusted partially relieved difficulties and used "as is" due to need for equipment.

In Process

Location

SMSB	FSRR -518R (5-2-63)	- Verifier Unit, P/N 25-32993-1, gave "No-Go" during functional test. Unit sent to Seattle for failure analysis.
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OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 4451 - Controller, Power Azimuth Drive

Handling Damage

SMSB FSRR -209R (2-12-63) - The Controller (P/N CR143Z10007) was dropped, denting the case, shorting some wires and causing the Variac to rub on the case.

OPERATIONAL DATA - 341st SMW

June 26, 1963

Figure A 4491 - Start-Up Unit - Launch Facility

Primary Failures

Location

SMSB	FSRR -288R (3-7-63) - P/N 25-34489-5
SMSB	FSRR -333R (3-15-63) - P/N 25-34489-5
SMSB	FSRR -334R (3-18-63) - P/N 25-34489-5
SMSB	FSRR -427R (3-28-63) - P/N 25-34489-5
SMSB	FSRR -426R (4-5-63) - P/N 25-34489-5
SMSB	FSRR -428R (4-5-63) - P/N 25-34489-5

All failure events resulted when R25, BAC R14CC-204, trimpot could not be adjusted to give a gyro start pulse of 2.5 seconds duration. Preliminary indications are that the windings are open.

Failure analysis was performed on two potentiometers rejected during inplant receiving inspection. These trimpots had exhibited erratic wiper action and low resistance over the adjustment range.

Microscopic examination of the dissected parts did not reveal any irregularities other than a few fibrous particles of an unidentified nature and origin. Electrical test showed normal performance of the potentiometers.

One other failed, BAC R14CC-204 potentiometer returned from Malmstrom is presently being analyzed. Preliminary information indicated a broken wire in the trimpot winding.

Retest Good

Location

SMSB	FSRR -440R (4-18-63) - P/N 25-34489-5 - Retest to procedure without failure.
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OPERATIONAL DATA - 341st SMW  
June 26, 1963

Figure A 4523 - Power Supply

Primary Failures

Location

- SMSB FSRR -484R (4-25-63) - An operational check of power supply 25-29137-1, S/N 0000031, indicated relay module 29-26108-1 was defective. This is classified as a primary failure because S/N 31 exhibited intermittent relay failures during manufacturing acceptance tests. Failure analysis of the replaced BAC R13BK1 relay, which is used in three of the seven relay positions on this module, showed that there were loose terminals on the relay that were causing intermittent operation. An OOAMA supplement has not been received on this failure.
- SMSB FSRR-654R (6-13-63) - An operational check of power supply 25-29137-1, S/N 0000027, indicated that the A1-K1 relay would not extinguish the 28V DC test light. Relay removed and replaced and operation check completed.

Miscellaneous

Location

- SMSB FSRR -585R (4-25-63) - An operational check on power supply 25-29137-1, S/N 0000032, indicated that the -30 volt regulator could not be adjusted per T.O. 33AR17-37-1. Diodes CR1, CR5, and CR9, which are part of the circuit and are mounted on heat sink 29-26818-1, had the mica insulating washers missing. If these washers are not installed the diodes will invariably short. Since production records indicate that this unit passed acceptance test in Seattle, the washers must have been misplaced during a previous unreported repair at the depot. An OOAMA supplement has not been received on this failure.
- SMSB FSRR -600R (5-28-63) - During calibration check at SMSB the -30 volt "No-Go" light came on. A-10 diode heat sink, P/N 29-26818-1, contained shorted diodes. Also indicating shorted diodes were modules A-3, P/N 29-26817-1; A-11, P/N 29-26816-1; A-13, P/N 29-26816-3; and A-14, P/N 29-26816-4. Analysis by the Reliability Field Engineers has been requested when further failures of this type occur to determine if a path to ground from the diode cathode exists. This will check the integrity of the mica washers installed between the diode and heat sink.



THE **BREING** COMPANY

2-5142-2

NUMBER D2-5286-41

SECTION TITLE ASSEMBLY & CHECKOUT FAILURE DATA,

MALMSTROM AIR FORCE BASE, FOR JUNE, 1963

PREPARED BY Reliability Evaluation Group 2-1772-3

SUPERVISED BY R. G. Bush 7/11/63  
R. G. Bush

APPROVED BY R. J. Delaney  
R. J. Delaney

APPROVED BY F. L. Curtis 7/17/63  
F. L. Curtis (DATE)

3 / 0000 REV. 2/63

REV SYM \_\_\_\_\_

VOL. NO.	OF
SECT. C	PAGE 1 of 92

REV SYM

MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM MALMSTROM AFB - JUNE 26, 1963																			
FIG. A NOMENCLATURE	No. of Prg. A's (Population)		FAILURE EVENTS				BREAKDOWN-IF/ICF FAILURES SINCE 3-28-63				THIS MO +								
	LF & ICF Only	CSA Only	TO DATE		IF & ICF		THIS MO.		THIS WK		Pre-Install. Rejections	Contamination & Damage	Hard-ware Failure	Retest Good	A&CO Regular	Normal Operat-ing Instruction	Secondary Failure Events	Primary Failure Events	Incompletely Analyzed
			Last 3 Mos	Since 3-28-63	This Mo.	This Wk													
1329	Elect. P/S & Dist. Sys, IF	150	175	4	87	25/7	-	-	-	-	-	-	-	-	-	-	-	-	-
1251	Digital Data Group, IF	150	192	32	38	9/2	6/2	3/2	2/0	2/1	-	-	-	-	0	0	1/0	11/4	10/0
1211	Environ. Control Sys, IF	150	166	0	37	19/8	-	-	-	-	-	-	-	-	-	-	-	-	-
1248	Cable Assembly Sets, IF	150	167	6	29	6/2	15/5	12/0	1/1	0	0	0	0	0	0	0	0	0	1/0
1278	Splicing Equip, Cabling Sys.	-	41	0	28	4/0	-	-	-	-	-	-	-	-	-	-	-	-	-
1296	Alarm Set, Anti-Intrusion	150	128	15	26	7/0	3/1	0	0	8/2	-	-	-	-	0	0	0	7/2	8/2
624	Test Center, Programmer	4	**	149	26	0	-	-	-	-	-	-	-	-	-	-	-	-	-
603	Missile Targeting Set	10	80	0	23	11/2	-	-	-	-	-	-	-	-	-	-	-	-	-
623	Adapter Group, Test	3	**	128	21	9/6	-	-	-	-	-	-	-	-	-	-	-	-	-
604	Coupler, Control-Guidance	-	38	0	20	7/2	-	-	-	-	-	-	-	-	-	-	-	-	-
1228	Stat Com'd Msg. Proc. Grp	150	130	9	20	10/1	1/0	5/2	3/2	0	0	0	0	0	0	0	0	8/5	3/1
1412	Sig. Assy., Voice Reporting	150	95	12	16	9/2	1/1	0	0	0	0	0	0	0	0	0	0	12/6	3/2
14059	Semi-Trailer, T-E	4	**	76	16	9/0	3/3	11/5	1/0	0	0	0	0	0	0	0	0	1/1	0
1284	Power Supply Group, IF	150	69	0	15	7/1	1/0	3/2	3/1	0	0	0	0	0	0	0	6/3	0	2/1
1214	Cooler, Liquid, G & C	150	60	88	13	4/2	5/1	0	0	3/0	-	-	-	-	0	0	0	5/3	0
602	Collimator Set	-	28	0	13	6/1	-	-	-	-	-	-	-	-	-	-	-	-	-
A&CO 14012	Test Set, Data Anal. Cont.	17	**	57	12	8/5	1/0	0	0	0	0	0	0	0	0	0	0	10/7	1/1
1282	Battery Set, Storage, IF	150	80	15	11	4/0	1/0	8/4	0	0	0	0	0	0	0	0	0	0	2/0
1295	Transducer, Motional P/U	900	61	2	11	8/0	1/0	0/1	0	0	0	0	0	0	0	0	0	10/7	0
14075	Tractor, T-E	4	**	59	10	3/0	0	4/0	1/0	0	0	0	0	0	0	0	0	4/2	1/1
* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.																			
** No differentiation is made between failures in the CSA vs. the IF & ICF areas.																			

REV SYM \_\_\_\_\_

DD FORM

NO. D2-5286-41

SECT. C

PAGE 3

**MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM MAINSTROM AFB - JUNE 26, 1963**

**FIGURE A  
NOMENCLATURE**

FIG. A	No. of Pkg. A's (Population)	No. of Pkg. A's (Population)	NUMBER OF DISCRETE FAILURE EVENTS										BREAKDOWN-IF/IOF FAILURES SINCE 3-28-63 / THIS MO *																						
			TO DATE			THIS MO.			THIS MO.			Events Due to Human Errors Resulting in-Instruction	Secondary Failures	Primary Failures	Inconsp. Failures	AT: 10:15	Analyzed	Events Due to	Recovery	Good	Failure	Contamination & Damage	P-Installs. Rejections												
			TEST 3 MOS			TEST 3 MOS			TEST 3 MOS																										
			ONLY	ONLY	ONLY	ONLY	ONLY	ONLY	ONLY	ONLY	ONLY																								
1201	Programmer Group	150	77	103	9	4/2	0	2/1	0	1/0	2/1	0	0	0	0	0	0	0	0	0	0	0	0												
1383	Gear Rack Assy, Launch. Clos	150	21	0	9	3/2	0	6/1	3/2	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
1419	Antenna, Fail Safe	260	20	0	8	2/2	2/0	4/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
14024	Semi-Trailer, R/V & G & C	4	**	21	7	1/0	0	5/0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
3109	Test Set, Alarm Set	8	**	39	7	4/4	4/1	3/3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
1280	Actuating & Lock'g Mech, LF	150	29	35	7	3/1	1/0	1/0	3/2	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
14119	Truck, T-E Support	7	**	13	6	1/0	0	3/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
1213	Com'd Stat. Msg. Proc. Grp.	15	41	12	6	1/0	3/0	1/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
1283	M-G Set (3-Unit), LF	150	55	2	6	4/4	0	1/0	1/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
14062	Truck, Targeting	5	**	10	5	5/1	0	4/4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
1243	Console, Launch Control	15	16	32	5	1/0	2/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
1202	Retractor, G&C, Umbil. Cable	150	15	0	5	4/2	2/1	0	1/1	2/2	0	0	0	0	0	0	0	0	0	0	0	0	0												
1374	Arrestor Set, Elect. Surg	150	30	0	5	2/0	1/0	4/2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
1447	Compressor, Drier Air	150	8	0	5	1/0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-												
1368	Radio Set Group	15	19	24	5	1/0	2/0	0	0	1/0	2/1	0	0	0	0	0	0	0	0	0	0	0	0												
14018	Adapter Group, Test	3	**	5	5	2/0	4/2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
1337	Distribution Box	150	28	0	5	3/3	1/0	1/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
14187	Alarm Set, Missile Storage	-	**	10	4	1/0	0	0	0	1/1	3/0	0	0	0	0	0	0	0	0	0	0	0	0												
1294	Switch, Sensitive	150	6	0	4	2/1	1/0	3/2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
1318	Plumbing Set, G&C Cooling	150	14	0	3	1/0	0	1/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												

\* Number of Discrete Failure Events discerned from data received during this month and ( / ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the LF & IOF areas.

\* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the LF & LCF areas.

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MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM MALINSTROM AFB - JUNE 26, 1963																
FIG. A	NOMENCLATURE	NUMBER OF DISCRETE FAILURE EVENTS SINCE 3-28-63												THIS MO *		
		TO DATE		LF & ICF		FAILURE EVENTS		EVENTS DUE TO		ANALYZED		Primary Failure Events				
		CSA ONLY	Last 3 Mos	Since 3-28-63	THIS WK	Pre-Instal. Rejections	Contamination & Damage	Hard-ware Failure	Retest Good	A&CO Peculiar	Normal Operat-ing		Secondary Failure Events			
No. of Prg. A's (Population)	15	12	0	3	2/0	-	-	-	-	-	-	-	-	-	Incompletely Analyzed	
1212	Environ. Control Sys., ICF	15	12	0	3	2/0	-	-	-	-	-	-	-	-	-	-
1411	Protr.Strip Set, Autocol	150	12	0	3	3/3	3/3	0	0	0	0	0	0	0	0	0
1303	Repeater, Telephone Set	156	17	35	3	1/1	0	0	0	0	0	0	0	2/0	1/1	1/1
1365	Repeater, Telephone Set	15	5	0	3	2/2	1/0	0	1/1	0	1/1	0	0	0	0	0
1338	Commun. Control Console	15	6	2	3	1/1	1/0	0	0	0	0	0	0	0	2/1	0
3092	Test Set, Programmer Group	5	**	22	3	0	2/0	0	0	0	0	0	0	0	1/0	0
1293	Antenna	600	8	1	2	0	0	1/0	0	0	0	0	0	0	1/0	0
1265	Digital Data Group, ICF	15	8	7	2	0	1/0	1/1	0	0	0	0	0	0	0	0
1373	Arrestor Set, Elect. Surg	15	9	0	2	1/0	1/0	1/1	0	0	0	0	0	0	0	0
1207	Compressor, Drier Air	15	3	0	2	1/0	-	-	-	-	-	-	-	-	-	-
1379	Battery Charger Alarm Set	150	10	22	2	1/0	1/0	0	0	0	0	0	0	1/1	0	0
14028	Adapter, Hoist, G&C Section	-	**	1	1	0	0	1/0	0	0	0	0	0	0	0	0
14031	Truck, Mechanical Maint.	3	**	9	1	1/1	0	1/1	0	0	0	0	0	0	0	0
14129	Trailer, Ballistic Missile	-	**	2	1	0	0	1/0	0	0	0	0	0	0	0	0
14306	Plate Set, T-E Hinge	-	**	3	1	1/0	0	1/1	0	0	0	0	0	0	0	0
14145	Control, Missile Erection	-	**	1	1	0	0	1/0	0	0	0	0	0	0	0	0
3113	Dummy Decoder-Relay Assy.	-	**	5	1	0	1/0	0	0	0	0	0	0	0	0	0
14025	Container, Safe & Arm Pins	-	4	0	1	1/1	0	1/1	0	0	0	0	0	0	0	0
14043	Elevator-Work Cage	22	24	20	1	0	0	0	0	0	0	0	0	0	1/0	0
14105	Gearcase - Motor	32	43	8	1	0	0	0	0	0	0	0	0	0	1/0	0
* Number of Discrete Failure Events discerned from data received during this month and (/) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.																
** No differentiation is made between failures in the CSA vs. the LF & ICF areas.																

\* Number of Discrete Failure Events discerned from data received during this month and (✓) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

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MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM MALMSTROM AFB - JUNE 26, 1963																													
FIG. A	FIGURE A NOMENCLATURE	NUMBER OF DISCRETE FAILURE EVENTS																											
		TO DATE			THIS MONTH			PREVIOUS MONTH			TOTAL			TOTAL															
		LF & ICF			Test 3 Mos			Since 3-28-63			This Mo.			This Mo.															
		Only			Only			Only			Only			Only															
		LF & ICF			Test 3 Mos			Since 3-28-63			This Mo.			This Mo.															
No. of Pkg. A's (Population)		LF & ICF		Test 3 Mos		Since 3-28-63		This Mo.		This Mo.		Pre-Installs. Rejections		Contamination & Damage		Hard-ware Failure		Retest Good		A&CO Peculiar		Normal Operat-Ing		Secondary Failure Events		Primary Failure Events		Incidentally Analyzed	
1302	Tele. Conn. & Switch Set	15	3	7	1	1/0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1306	Telephone, LF	150	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1363	Jack Box, LF	150	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1366	Repeater, Telephone Set	15	3	1	1	1/1	1/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1376	Interconnecting Boxes	-	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1377	Interconnecting Boxes	150	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1425	Arrestor Assy, Elect. Surge	15	2	0	1	1/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1288	Storage Battery Set, ICF	15	3	0	1	1/0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1367	M-G Set (4-Unit), ICF	15	18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1385	Dist. Box, Power & Comm.	150	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1289	Power Supply Group, ICF	15	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1450	Test Repair Set, G&C Cool.	-	**	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1495	SSCBM	-	**	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1420	Carriage, 2nd Stage Motor	-	**	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14175	Jack Set, Translating	-	**	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14280	Position'g Kit, Carr'ge Mtr.	-	**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14282	Holst, Gearcase - Motor	-	**	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1204	Supp., Miss., Susp & Align	150	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330	Shock Attenuation Sys, LF	150	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3035	Test Set, G&C Cooler	-	**	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* Number of Discrete Failure Events discerned from data received during this month and (/) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.																													
** No differentiation is made between failures in the CSA vs. the LF & ICF areas.																													

\* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the LF &amp; ICF areas.

MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM MALMSTROM AFB - JUNE 26, 1963																	
FIG. A	FIGURE A NOMENCLATURE	No. of P.R. A's (Population)	NUMBER OF DISCRETE FAILURE EVENTS				BREAKDOWN-IF ICF FAILURES SINCE 3-28-63 / THIS MO *										
			TO DATE		Last 3 Mos	THIS MO. Since 3-28-63	Pre-Installs: Rejections	Contamination & Damage	Events Due to		A&CO Peculiar	Normal Operat- ing	Secondary Failure Events	Primary Failure Events	Incompletely Analyzed		
			Only LF & ICF	CSA Only					Hard- ware Failure	Human Errors Resulting in-							
3007	Test Set, Explos. Set Circ	4	**	8	0	0	0	0	0	0	0	0	0	0	0	0	0
4063	Truck, Electronic Maint.	-	**	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4451	Controller, Power Az. Drive	-	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1335	Operators Seat	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1375	Damper, Flue, Elec. Cooling	15	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4407	Level Set, Msle Base Suprt	-	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4440	Plate, Mounting Theodolite	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300	Handset	30	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1304	Jack Box	1260	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1320	Repeater, Telephone Set	15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1361	Jack Box	150	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4489	Message Generator	-	**	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6005	Conduit-Suprt. Set, Raceway	150	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1246	Cable Assembly Set, ICF	15	9	6	0	0	0	0	0	0	0	0	0	0	0	0	0
4491	IF Start-Up Unit	-	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4523	Power Supply	-	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1380	Distribution Boxes	150	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4452	Test Equip., Elec. Fac.	-	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4319	Adapter Set, Connector	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4539	Test Set, VRSA	-	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

\* Number of Discrete Failure Events discerned from data received during this month and ( / ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the IF & ICF areas.

\* Number of Discrete Failure Events discerned from data received during this month and (✓) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the IF & ICF areas.

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MONTHLY SUMMARY - AECO FAILURE REPORT DATA FROM MALMSTROM AFB - JUNE 26, 1963																													
FIG. A	FIGURE A NOMENCLATURE	NUMBER OF DISCRETE FAILURE EVENTS					BREAKDOWN-LE/LCF FAILURES SINCE 3-28-3 / THIS MO *																						
		TO DATE		LF & LCF		Pre-Install. Rejections	Contamination & Damage	Hard-ware Failure	Retest Good	AECO Peculiar	Normal Operat-ing	Secondary Failure Events	Primary Failure Events	Incompletely Analyzed															
		CSA Only	Test 3 Mos	Stages 3-28-3	This Mo. #																								
		LF & LCF Only	CSA Only	Test 3 Mos	Stages 3-28-3																								
No. of Pkg. A's (Population)		LF & LCF		CSA Only		Test 3 Mos		Stages 3-28-3		LF & LCF		Pre-Install. Rejections		Contamination & Damage		Hard-ware Failure		Retest Good		AECO Peculiar		Normal Operat-ing		Secondary Failure Events		Primary Failure Events		Incompletely Analyzed	
1600	Door, Primary	84	0	26	8/1	6/1	20/7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1607	Security & Alarm Set	54	5	18	9/1	2/1	4/2	1/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1602	Pumping Unit, Hydraulic	51	0	17	2/0	2/0	1/0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1611	Ladder, Telescoping	27	0	13	9/0	11/9	0/0	1/0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1604	Door, Secondary	24	0	7	2/1	5/2	2/0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1603	Piping & Cont.Set,Hydraulic.	29	0	7	5/0	0/0	1/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1605	Actuator, Electro-Mechan.	21	0	7	1/0	1/0	1/0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1601	Cylinder Assy.,Actuating	8	0	7	5/2	3/1	2/2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1608	Door,Vault,Security Pit	30	0	5	1/0	0/0	2/0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1606	Wir'g & Cont.Set,Electrc'l	13	0	4	1/0	0/0	2/1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1610	Guide Rail,Secondary Door	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1612	Anchor Plate	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

\* Number of Discrete Failure Events discerned from data received during this month and ( / ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

## No differentiation is made between failures in the CSA vs. the LF & LCF areas.

**2-8142-2**

### DEFINITIONS

**Number of Figure A's (Population):** This is the number (population) of Figure A's installed on which failures would have occurred during the past three months.

**Number of Discrete Failure Events:** Four columns are provided to separate the number of individual failure events. Failure events in the LF and LCF are separated in two columns from those events in the CSA for which hardware has not yet been delivered to the launch areas for installation. These entries do not indicate the number of actual hardware failures (see following definitions). Two columns also provide, by identifying this month and last three months, for a more current appraisal of Figure A failure events in the launch areas.

**Breakdown - LF and LCF Failure Events - Last 3 Months/Current Month:**

**Pre-Installation Rejections:** Items rejected by Contractor and/or USAF Q.C. inspection personnel when received for installation in the LF or LCF or during installation.

**Contamination and Damage:** This category indicates a failure or impending failure to a piece of equipment which has been exposed to abnormal environment, i.e., shipping, handling, temperature, smoke or soot, water, etc. The equipment itself has qualified to all requirements of quality in manufacturing and testing prior to this contamination or damage.

**Events Due to Human Errors Resulting in Hardware Failure or Retest Good:** Equipment failure events or operational discrepancies induced by human action during AECO operations. In all cases, the available AECO or equipment operating instructions were correct at the time of the failure event. This category includes "good" equipment improperly rejected through human or test equipment fault following which the equipment is returned to service (or to spares inventory) without adjustment or repair.

**Events Due to Faulty Instructions - AECO Peculiar/Normal Operating:** These entries reflect those equipment failures or operational discrepancies induced by the application of a misleading, incomplete, or erroneous written procedure. To ascertain those few events which are significant to operational reliability, the number of events caused by faulty equipment operating instructions are separately noted in the "normal operating" column; corrective action applicable to such events consists of revisions to the instructions and corresponding AFTO's.

**Secondary Failure Events:** An equipment failure event induced by "chain-reaction" to a primary failure event.

**Primary Failure Events:** A true reliability-significant failure event involving equipment failure(s) which cannot be traced to any cause other than a design error, manufacturing discrepancy, or a part failure. Such failures may occur only after the equipment has been installed and has functioned properly once.

**Incompletely Analyzed:** Events for which only advanced and incomplete information ("R" copies of failure reports) is available prior to completion of fault isolation testing in the CSA or failure analysis at Boeing-Seattle. Opportunity exists, therefore, when the cause and mode of failure become known, that these events may be assigned to any of the previously discussed categories.



MAFB - A&CO DATA

Figure A 1201 - Programmer Group  
March 28 thru June 26, 1963

Contamination & Damage

Location

LF J-07	UER063635 (4-10-63)	Rack S/N 0000126	Lock Wing of
LF O-11	UER026847 (5-27-63)	Rack S/N Unknown	Drawer Handle,
			P/N BAC L10AB1,
			was broken.

Human Error - Retest. Good

Location

LF M-07	UER186019 (4-26-63)	Rack S/N Unknown - Voltage Regulator
		Assembly Drawer (A6) P/N 25-22042-51

Secondary Failure Events

Launcher - Missile Status Monitor Drawer (A4) P/N 25-22040-63

Location

LF J-10	UER135985 (4-10-63)	Rack S/N 0000155 - Miswiring at the
	UER135983	sump pump control panel (Fig. A 1329)
	UER135984	causes over-voltage at programmer group.
	UER145949	
	UERD38602	

Primary Failure Events

Programmer Launch Sequence (A2) P/N 25-22038-54

Location

LF M-06	UER186052 (5-6-63)	Rack S/N 0000144 - Module P/N 25-22053-15
	UER097858	No further data received.
LF M-03	UER139633 (5-13-63)	Rack S/N 0000146 - Module P/N 25-22053-15,
	UER097867	Q-4 (P/N BAC R30A1) is shorted. Cause
	UER116456	not yet determined.

Voltage Regulator Assembly Drawer (A6) P/N 25-22042-51

Location

LF M-10	UER186260 (5-6-63)	Rack S/N 0000140 - Module P/N 25-23426-10.
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UER038704  
UER038717

R-9(443-0157-707) and R-10 (443-0159-717) are burned.

Incompletely Analyzed

Sequential Timer Drawer (A1) P/N 25-22037-68

Location

LF M-07	UER186001 (4-30-63)	Rack S/N Unknown - Launch message is being lost in the drawer.
LF M-07	UER16354 (5-17-63)	Rack S/N Unknown - VRSA Channel 17 (Launch Acceptance Alarm) illuminated. Drawer rejected.

The following data were obtained from the CSA during routine inspection and/or functional test of hardware prior to delivery to the LF's for initial installation. Failures occurring during the installation and check-out of KECP changes have no hardware performance/reliability significance and are not included in the failures listed herein.

Sequential Timer Drawer (A1) P/N 22037-68

UER038759 (5-4-63)	Drawer handles, P/N BAC L10AB1, have broken lock wings.
UER038760 (5-4-63)	Broken shear-pin, P/N NAS561PF2-15, on open-close handle of the code safe door, Assy. P/N 25-25042-4.

Calibrator - Test Programmer Drawer (A3) P/N 25-22039 -59

UER097806 (5-11-63)	Rack S/N 0000121 - Drawer handle (P/N BAC L10AB1) has broken lock wing.
---------------------	---

Human Error - Hardware Failure

Launcher - Missile Status Monitor Drawer (A4) P/N 25-22040-63

UER038612 (4-19-63)	Drawer level test. Module P/N 25-22708-26.
UER 038613	Failure analysis indicates that Q9(NAA472-7000-001) failed either as a result of human error or external transient.
UER 038472	
UER 116443	

Primary Failure Events

Sequential Timer Drawer (A1) P/N 25-22037-68

UER028209 (4-3-63)	Rack S/N 0000158 - "NO-GO" occurred during functional tests. Module P/N 25-22773-5 had Q2 (P/N 472-7000-001) shorted E-C.
UER090268	
UER28086	

Primary Failure Events

Launch Sequence Programmer Drawer (A2) P/N 25-22038-54

UERO28161 (4-16-63)	Rack S/N 0000146 - Module P/N 25-22756-1 causes A2 drawer to give "NO-GO". No further information received.
UERO97773	
UERO38555 (4-24-63)	Rack S/N 0000160 - Failed functional test during end-to-end test sequence.
UERO97803	Module 25-22756-1 defective. No further information received.

Calibrator - Test Programmer Drawer (A3) P/N 25-22039-59

UER186341 (4-8-63)	Rack S/N 0000126 - "NO-GO" indication occurred during end-to-end test. Module P/N 25-22713-6 was rejected due to parameter drift of the parts within the 60 second timer (T-60A) circuit.
UERO28081	
UERO28082	

Incompletely Analyzed

Launch Sequence Programmer Drawer (A2) P/N 25-22038-54

UERO28147 (4-16-63)	Rack S/N 0000181 - Failed during end-to-end test.
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MAFB - A&CO DATA

Mar. 28 thru June 26, 1963

Figure A 1202 - Retractor, G&C, Umbilical Cable

Pre-Installation Rejections

Location

LF K-10 UER185701 (3-28-63) - Excessive resistance of actuator (P/N 2150-15) squib circuit.

LF M-10 UER071885 (4-26-63) - Cable (P/N 2165-1) did not fully retract during air pressure test.

Events Due to Human Error Resulting In:

Hardware Failure

Location

LF M-09 UER155601 (4-5-63) - Carriage (P/N 25-35718-1) damaged.

Retest Good

Location

LF J-02 UER175892 (4-1-63) - Actuators (P/N 2150-15) did not lock upon retraction. Retest good at Vendor's plant. NOTE: Cables (P/N 2165-1) found kinked and were replaced by Vendor.

LF J-02 UER145953 (4-4-63)

MAFB - A&CO DATA

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Figure A 1213 - Command-Status Message Processing Group

Pre-Installation Rejections

Location

LCF Unk.	UERO38819 (5-2-63)	Fault in drawer P/N 8323594-501 caused rack circuit breaker to remain off. Module A39 P/N 8619233-501 replaced. Returned to RCA.
LCF Unk.	UERO38529 (4-25-63)	Drawer P/N 8324134-503 - Module A24, P/N 8618986-501 starts to oscillate. Module replaced. Returned to RCA.
	UERO38504	Drawer P/N 8324134-503 - Test lead was dropped causing a short. Module A3, P/N 8618971-501 replaced. Returned to RCA.
LCF Unk.	UERO38527 (4-24-63)	Drawer P/N 8323657-502 failed Fig. A 4012 tests. Module A5, P/N 8619233-501 replaced and returned to RCA.
	UERO38419	Module A24 P/N 8618968-501 indicated "bad" on Fig. A 4012. Module removed, tested and then reinstalled. No failure.

Contamination & Damage

Location

LCF J-01	UERO35377 (5-4-63)	Drawer P/N 8323606- 501. Handle P/N BAC L10A81 broken on drawer.
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Human Errors - Hardware Failures

Location

LCF J-01	UER135891 (4-16-63)	Drawer P/N 8318766-503
	UERO38597 -	Module A4, P/N 8618770-501 replaced.

Secondary Failure EventsLocation

LCF J-10	UER028210 (4-4-63) UER186400	Drawer P/N 8324134-503 gives fault on ACO 4012. Module A24, P/N 8618986-501 damaged due to erroneous wiring of the ACO 4012, S/N 0000006, during KECP incorporation.
LCF J-01	UER135728 (4-8-63) UER038417	Drawer P/N 8324134-501 will not pass tests using File A 4012. Module A39, P/N 8618986-501 replaced. Returned to RCA.

The following events occurred in the CDA area.

UER038435 (5-1-63)	Drawer P/N 8323574-501. Filter FL5 output reported to be 100 cycles more than input.
UER097998 (5-22-63)	Drawer P/N 8323624-502 failed test #1834 on the ACO 4018. Module A18 P/N 8619235-501 was removed & returned to RCA.
UER097964 (5-31-63)	Drawer P/N 8323624-502 failed test #1124 on the ACO 4018. Module A19 P/N 8619233-501 replaced & returned to RCA.
UER186470	Drawer failed test #1834 on the ACO 4018. Module A20 P/N 8618986-501 was replaced & returned to RCA.
UER038644 (4-26-63)	Drawer P/N 8323624-502 Module A21 P/N 8619233-501 replaced & returned to RCA.

MAFB - A&CO DATA

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Figure A 1214 - Cooler, Liquid, Guidance Section

Pre-Installation Rejection

Location

LF I-2	UER131652 (3-28-63) - Amplifier Assembly (P/N 10-20677-4) 028197	will not pass the high temperature Pulse test. Replaced control amplifier (United Control P/N 1902-701) with later revised type.
LF J-5	UER063458 (4-19-63)	-Tubing Assembly (P/N 21-50148-1) has 3 hairline cracks on flare.
LF J-7	UER063648 (4-19-63)	-Pumping Assembly (P/N 10-20677-3) Solenoid Valve Relay wired incorrectly. This causes the Solenoid Valve to work backwards.
LF J-3	UER175885 (4-29-63)	-The Pumping Assembly (P/N 10-20677-3) has a loose connection leaking.
LF M-7	UER107290 (5-29-63)	-New Pumping Assembly (P/N 10-20677-3) S/N 0000262 had reversed wiring.

Human Error - Retest Good

The following 3 amplifier assemblies (P/N 10-20677-4) retested good at the CSA.

Location

LF L-11	UER049884 (4-1-63)	Gross temperature light does not
LF J-10	UER131553 (4-18-63)	illuminate within required tolerances.
LF J-10	UER197808 (5-7-63)	- Bridge null point is erratic and the Solenoid Valve movement is out of tolerance.

Primary Failure Events

Location

LF I-5	UER175797 (4-3-63)	- Compressor motor inoperative in chiller (P/N 10-20676-2) S/N 0000176.
LF L-7	UER157516 (4-4-63)	- The compressor motor rotor is dragging in chiller (P/N 10-20676-2) S/N 0000156.

Primary Failure Events

- LF J-7 UER063649 (4-19-63) - Freon leak at pressure gauge on  
chiller (P/N 10-20676-2) S/N 0000279.
- LF M-7 UER163653 (5-17-63) - Pumping Assembly (P/N 10-20677-3)  
S/N 0000337 is leaking at by-pass line.
- LF M-7 UER071582 (5-29-63) - The gross temperature fault light on  
107290 amplifier remains on at all times. All  
107288 coolant lines are cold except the ones  
running to & from the missile. Both  
the amplifier assembly and pumping  
assembly were replaced. The amplifier  
assembly retested good in the CSA. Re-  
test of the pumping assembly showed it  
to be faulty.

The following rejection, pertinent to hardware performance, occurred during functional test of the amplifier (P/N 10-20677-4) upon completion of a scheduled hardware change (KECP 500) at CSA:

- UER028088 (4-17-63) - The amplifier assembly fails the high  
temperature Pulse test. Unit returned  
to Vendor.



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Figure A 1228 - Status - Command Message Processing Group

Pre-Installation Rejections

Location

LF H-6 UER 035369 (3-19-63) - Drawer 8324797-503 - Tamper-proof case has grounding problem.

Contamination & Damage

Location

LF D-08 UER 123169 (3-29-63) - Drawer P/N 8323611-502 has broken ear on handle, P/N BAC L10AB1, and bent and cracked panel.

LF I-03 UER 150707 (4-15-63) - Drawer P/N 8325136-502 is bent causing an air leak.

LF L-07 UER 127107 (4-17-63) - Drawer P/N 8323605-502 handle ear broken off.

LF K-10 UER 097846 (5-14-63) - Drawer P/N 8325136-502, Handle P/N H344-15 was broken during removal from rack.

LF O-10 UER 076812 (5-27-63) - Drawer P/N 8323613-501 arrived on site with broken handle P/N BAC L10AS1.

Human Errors

A. Hardware Failures:

Location

LF K-10 UER 167847 (3-29-63) - Drawer P/N 8325136-502 - CSD showed M.D.U. fault; J-1 plug bracket damaged.

LF J-10 UER 175690 (5-3-63) - Drawer P/N 8325136-502 - gives VRSA Channel 30 fault. Found tampering evidence; extra wires in drawer. Wires J1-32 & 34 were removed.

UER 197803 (5-3-63) - (Additional information, same failure event)

Figure A 1228 (Cont'd)  
Page 2 of 3

Human Errors (Cont'd)

a. Hardware Failures:

Location

LF M-05 UER 071565 (5-15-63) - Drawer P/N 8318766-503 Meter probe burned off in pin of test plug.

Primary Failure Events

Location

LF M-03	UER 126440 (5-25-63) -	Drawer P/N 8318766-503 failed during post-KECP 601 functional test. Replaced drawer.
	UER 097943 -	Module A4, P/N 8618770-501 has shorted transistor Q1, Type 2N665.
LF J-06	UER 035124 (4-16-63) -	Drawer P/N 8318766-503 - Kicking off main circuit breaker. Replaced drawer.
LF L-07	UER 185579 (4-22-63) -	Drawer P/N 8323611-502 - Failed SCNT
	UER 038735 -	Module A4 P/N 8618986-501 is self-resetting. Returned to RCA.
LF Unk.	UER 186435 (4-5-63) -	Drawer P/N 8323611-502 - Drawer gave an erroneous indication during test. Module A4 P/N 8618986-501 replaced.
LF J-10	UER 135813 (5-2-63) -	Drawer P/N 8318766-503 trips circuit breaker on main power supply. Failure occurred after completion of ECP 584.
	UER 028132 -	Module A4, P/N 8741786-501 has shorted transistor, type 251M.
LF L-06	UER 186048 (5-2-63) -	Drawer P/N 8325136-502 gives a VRSA Channel 30 fault. Replaced drawer.
	UER 097852 -	Module A38 P/N 8618968-501 has continuous ground on test point 29. Module returned to RCA.
LF M-07	UER 139635 (5-15-63) -	Drawer P/N 8323611-502 fails test seq. 17 (inhibit timer elapsed launch test)
	UER 139566 -	Drawer replaced, did not correct. Drawer P/N 8323605-502 replaced.
LF M-03	UER 139680 (5-14-63) -	Drawer P/N 8323611-502 failed SCN signal response delay - erratic. Drawer replaced.

Incompletely Analyzed

Location

LF K-07	UER 056378 (3-30-63)	Waveform converter Drawer P/N 8323611-502 indicated failure in each case during SCNT test. No retest data has been submitted. It is probable these drawers will retest good as the trouble symptoms indicate the noise problem to be alleviated by ECP 601.
LF L-06	UER 185946 (5-2-63)	
LF M-07	UER 163684 (3-27-63) -	Drawer P/N 8323613-501 indicated failure to process launch inhibit. Fault could not be reset with ACO 101.
	UER 186652 (6-10-63) -	Indicates incorrect output on FL #1. No further information.

The following data were obtained from the CSA during functional test of hardware prior to delivery to the LF's for initial installation:

Human Errors, resulting in hardware failures

UER 144169 (3-7-63) - Drawer P/N 8323605-502 - Extra pin in J-2 plug shorted out when pin was pushed in.

Contamination & Damage

UER 038565 (4-24-63) - Drawer P/N 8323613-501; Drawer was dropped.

Incompletely Analyzed

UER 097774 (5-10-63) - Drawer P/N 8323613-501 - Defective Module A-10 P/N 8619203-501 removed. F/A requested.

MAFB - A&CO DATA

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Figure A 1243 - Launch Control Console

Pre-Installation Rejections

Location

LCF M-01 UERO71602 (5-1-63) - Program control panel P/N 25-24177-10 failed to indicate a "go" condition during tests. No further information.

LCF M-01 UERO71601 (5-1-63) - Alarm monitor panel P/N 25-24176-15. The "code dissipated" light did not illuminate during test with ACO 4012.

UERO97780 - Wires 8C2 & 2C2 were burned. Replaced both wires. Cause not yet determined.

Incompletely Analyzed

Location

LCF I-01 UER175873 (4-22-63) -Drawer P/N 1274013-503. The LF selector button for LF's #4, & #5 must be held in the depressed fully (ring) position to communicate with these sites.

LCF I-01 UER175852 (4-19-63) -Drawer P/N 1274013-503. The lower "operate" button sticks.

LCF L-01 UERO49730 (4-6-63) - Program control panel P/N 25-24177-10. The LCF did not receive "Standby", "Launch in Process" or "SCN Test Received".

MAFB - A&CO DATA

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Figure A 1248 - Cable Assembly Set, LF

Pre-Installation Rejections

Location

LF M-08	UERO49897 (4-25-63) - Connectors not clocked per drawing. Cable P/N 21-51001-1052.
LF M-02	UER186119 (5-11-63) - Cable (P/N 21-51001-1489) RF signal attenuation too high.
LF M-10	UER186255 (5-13-63) - Cable P/N 10-20954-11. Open circuit.
LF J-09	UER131272 (3-29-63) - Cable P/N 21-51001-1455. Open circuit.
LF N-02	UERO71844 (5-29-63) - Cable P/N 21-51001-1453. Open circuit.
LF M-10	UER186255 (5-8-63) - Cable P/N 10-20954-11. Open circuit.

Connectors do not mate properly:

LF L-09	UERO49763 (4-8-63) - P/N 10-20954-11
LF M-07	UERO49681 (4-23-63) - P/N 10-20954-11

Cables too short:

LF J-02	UERO35078 (4-2-63) - P/N 21-51001-1455
LF N-09	UER126369 (4-5-63) - P/N 21-51001-1043
LF M-08	UERO49890 (4-12-63) -
LF J-09	UER135970 (4-8-63) - P/N 21-51001-1287
LF M-09	UERO49842 (5-2-63) - P/N 21-51001-1459
LF M-09	UERO49842 (5-2-63) - P/N 21-51001-1455
LF L-10	UER138757 (4-3-63) - Terminal leads improperly installed.

Contamination & Damage

Location

LF L-11	UER127121 (4-3-63) - Cable (P/N 21-51001-1232) damaged upon receiving, connector broken.
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Contamination & DamageLocation

LF I-11	UER131597 (4-3-63)	- Attach bolts on umbilical cable (P/N 10-20954-11) plug have stripped threads.
LF I-11	UER131595 (4-3-63)	- Attach bolts on umbilical cable (P/N 10-20954-11) connector have stripped threads.
LF M-05	UERO56220 (4-9-63)	- Threads stripped on umbilical connector (P/N 302203-1).
LF I-09	UER131683 (4-1-63)	- Cable U5316 (P/N 21-51001), connector dropped on ACO 100.
LF I-09	UER131683 (4-1-63)	- Cable U5317 (P/N 21-51001), connector dropped on ACO 100.
LF L-08	UERO56193 (4-2-63)	- Damaged threads on connector. Cable P/N 21-51001-1232.
LF I-09	UERO63564 (4-8-63)	- Cable armor shields (P/N 29-27186-3) frayed and broken.
LF I-09	UER197888 (4-26-63)	- Umbilical cable P/N 10-20954-11, shear pins broken.
LF M-03	UERO49710 (4-24-63)	- Cable (P/N 10-20954-11) abraded on support bracket. Bracket relocated.
LF M-03	UERO71764 (4-25-63)	- Cable damaged (P/N unknown). Replaced.
LF L-07	UER126348 (4-27-63)	--Cable (P/N 21-51001-1113) cut. Received in this condition.

Management action has been accomplished to caution and instruct A&CO crews on proper handling and installation procedures. An investigation of adequacy of installation drawings is in progress.

Human Errors - Hardware FailureLocation

LF M-11	UER139509 (5-7-63)	- Nut came loose causing umbilical (P/N 10-20954-11) to fall to bottom of launch tube which resulted in damaged cable.
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Incompletely Analyzed

The following report does not contain sufficient information to accurately classify the event in any of the above categories:

Location

LF J-06 UER147123 (4-10-63) -Cable (P/N 21-51001-1021) shell rides  
on existing adjacent cable shell.  
Removed and replaced -1021 cable.

MAFB - A&CO DATA  
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Figure A 1251 - Digital Data Group

Pre-Installation Rejections

Location

LF L-06 UER 056175 (4-2-63) - Rack P/N 8323616-509, damaged terminals.  
UER 186426 - J-14 connector replaced.

LF L-02 UER 127184 (4-5-63) - Drawer P/N 8323600-505, will not pass tests.  
UER 186316 - replaced missing wire.

LF J-03 UER 063467 (4-12-63) - Drawer P/N 8318766-503 removed. Would not  
come on.

LF M-04 UER 186151 (5-6-63) - Drawer P/N 8323600-505 failed SCNT. Replaced  
drawer.  
UER's 097752, 097753 - Two wiring errors in connector J1.  
Factory error.

LF M-02 UER 049608 (5-4-63) - Drawer P/N 8323600-505 failed test L-7B.  
UER 038439 - Wire missing TB 8 pin 9 to J1 pin X. Factory error.

LF J-10 UER 135778 (4-18-63) - Drawer P/N 8323661-502 - VRSA would not  
respond to signals - detector drawer was not  
passing signals.  
UER 186407 - Jumper wire missing. Factory fabrication error.  
NOTE: This event reclassified from Primary failure in last  
report.

Contamination & Damage

The following failures were due to breakage of the thumb release wings of the  
latching handle, P/N BAC L-10AB1, probably due to mishandling.

Location

LF L-04 UER 155496 (4-3-63) - Drawer P/N 8323591-501

LF M-08 UER 186063 (5-15-63) - Drawer P/N 8323591-501

LF N-07 UER 071586 (5-4-63) - Drawer P/N 8318766-503

Human Errors

a. Hardware Failure

Location

LF L-08 UER 056183 (4-4-63) - Drawer P/N 8323591-501 failed ACO 4012 tests.  
UER 186317 - Pins 44 & 56 of J-3 were broken.

LF M-09 UER 185894 (4-29-63) - Rack P/N 8323616 - failed functional test.  
Timer plugs left out.



Figure A 1251 (Cont'd)  
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Human Errors (Cont'd)

b. Retest Good

Location

LF L-06 UER 138788 (4-4-63) - Drawer P/N 8323619-503  
LF L-05 UER 126334 (3-28-63) - Drawer P/N 8323608-504

Secondary Failure Events

Location

LF J-10 UER 197799 (5-2-63) - Drawer P/N 8318766-503 removed.  
UER 028133 - Module A4 P/N 8741786-501 has shorted transistor (Q2), P/N 501M. Reference UER 135813 on Fig. A 1228 and UER 197801 on Fig. A 1284.

Primary Failure Events

In each of the following Fig. A-level failures, satisfactory operation was restored by replacing the noted drawers and/or modules which were removed and returned to RCA. No retest data is available to isolate failed parts.

Location

LF H-04 UER 123414 (3-28-63) - Drawer P/N 8323608-504 - Module A10, P/N 8619235-501  
LF L-06 UER 155701 (4-4-63) - Drawer P/N 8323608-504 - Received fault light on 4012  
UER 186313 - Module A28, P/N 8621184-501 - Returned to RCA  
UER 038608 - Module A12, P/N 8618973-501 - Returned to RCA  
LF L-02 UER 049994 (4-15-63) - Drawer P/N 8323619-503 will not process a launch message.  
UER 038525 - Module A41, P/N 8619233-501. Returned to RCA  
LF J-04 UER 136778 (5-3-63) - Drawer P/N 8323661-502 removed. Module A1, P/N 8619799-501. No output.  
UER 038774  
LF G-03 UER 150823 (2-28-63) - Drawer P/N 8323600-505, will not shift any "ones" into the fire code.  
UER 143926 - Module A35, P/N 8618991-501 - rejected in error per UER 143927  
UER 143928 - Module A34, P/N 8618991-501  
LF --- UER 144149 (3-7-63) - Drawer P/N 8318766-503 - Module (location unknown) P/N 8741786-501  
LF H-10 UER 150968 (3-6-63) - Drawer P/N 8318766-503 - Module A4, P/N 8618770-501

Primary Failure Events (Cont'd)

Location

- LF H-8 FR 074979 (3-4-63) - Drawer P/N 8318766-503. Circuit breaker will not remain on. Defective transistor suspected.
- LF J-04 UER 135896 (4-19-63) - Drawer P/N 8323608-504 - Standby indicator does not illuminate when SCNT is sent to LF. Failure due to excessive noise, correctable by incorporation of KECP 601-1.
- LF J-03 UER 174295 (4-10-63) - Drawer P/N 8323619-503 fails to pass 4012 tests.
- LF J-10 UER 135805 (4-26-63) - Drawer P/N 8323661-502. Unable to "safe" SCS from LCF. Replaced drawer.
- LF M-04 UER 186189 (5-6-63) - Drawer 8323619-503 failed test L6-F. Replaced drawer.
- UER 097747 - A20 Module P/N 8619235-501 has too long a rise time. Replaced module.

The following failures were isolated to the defective component:

- LF J-07 UER 063401 (4-25-63) - Drawer P/N 8318766-503 - Trips C/B on main power supply. Replaced drawer.
- UER 038398 (5-2-63) - Module A4, P/N 8618770-501, shorted transistor type 2N665.
- LF I-10 UER 174294 (3-28-63) - Drawer P/N 8318766-503 - Main C/B cannot be turned off.
- UER 186412 - Module A7, P/N 8741605-501 - Defective Q4, type 850 M.

Incompletely Analyzed

The following failure events are not yet analyzed to the module level by means of retest in the CSA. When these retest data become available the events will be reclassified.

- LF L-05 UER 126334 (3-28-63) - Drawer P/N 8323608-504. "Green" light did not come on during test.
- LF I-09 UER 131524 (3-30-63) - Drawer P/N 8323619-503 - Launch message processed intermittently.
- LF I-09 UER 131521 (3-30-63) - Drawer P/N 8323608-504. No reset output.
- LF L-10 UER 127191 (4-2-63) - Drawer P/N 8323591-501. The "good" indicator light did not illuminate.
- LF L-06 UER 138788 (4-4-63) - Drawer P/N 8323619-503. Fault light received on ACO 4012.

Incompletely Analyzed (Cont'd)

LF L-02	UER 138962 (4-6-63) - Drawer P/N 8323619-503. Drawer will not pass ACO 4012 tests.
LF L-03	RT 230488 (4-10-63) - Drawer P/N 8323619-503. Fails to pass ACO 4012 tests.
LF Unk.	RT 304584 (4-10-63) - Drawer P/N 8323600-505. Fault was indicated on 4012.
LF L-07	UER 049766 (4-11-63) - Drawer P/N 8323608-504. No dump pulse was monitored on drawer.
LF J-04	UER 135894 (3-29-63) - Drawer P/N 8323661-502. Would not respond correctly to tests.

The following failures occurred in the CSA area:

Pre-Installation Rejections

UER 038809 (5-3-63) - Drawer P/N 8323611-502 - Had wiring error at 3rd level jumper on Module A3.

UER 123441 (4-1-63) - Drawer P/N 8323608-504 - Plug missing

UER 038486 (4-29-63) - Drawer P/N 8323600-505 - Failed during tests.  
Module A42 P/N 8619233-501 was replaced.  
UER 038485 Module A37 P/N 8618991-501 was replaced.

UER 38686 (5-9-63) - Drawer P/N 8323661-502 - Had wiring error on Module A6. Pin #15 connected to pin #25 and # 17 connected to pin #27. Factory error.

UER 097992 (5-22-63) - Drawer 8323608-505 has missing 3rd level wire.

UER 098046 (5-27-63) - Drawer P/N 8323608-505 had defective A28 Module P/N 8621184-501. Module replaced.

UER 097916 (5-28-63) - This module had been returned to RCA and came back with same problem.

Primary Failure Events

UER 098022 (5-25-63) - Drawer P/N 8323608-505 - Defective, A15 module P/N 8645310-501 no output. Replaced.

UER 097924 (5-27-63) - Drawer P/N 8323600-506 had pin 22 of A20 module shorted to ground. Replaced module.

Incompletely Analyzed

UER 028089 (4-14-63) - Drawer P/N 8323608-504 - Failed while being used as "test" drawer in CSA. Module A29 P/N 861987-501 returned to RCA for failure analysis.

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Figure A 1265 - Digital Data Group, LCF

Pre-Installation Rejections

Location

LCF Unk. UER186332 (4-8-63) - Drawer P/N 8323612-501, wiring error.

Human Errors - Retest Good

Location

LCF Unk. UER186452 (4-9-63) - Drawer P/N 8323612-501, Filter FL-1  
erroneously rejected for low resistance.  
Wrong meter scale used.

MAFB A&CO DATA

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Figure A 1280 - Actuating & Locking Mechanism, Launcher Closure

Pre-Installation Rejections

Location

LF J-02 UER063530 (4-23-63) - Excessive resistance of cartridge  
(P/N 5290-9) squib circuit.

Contamination & Damage

Location

LF N-03 UER049953 (4-19-63) - Cable stop (P/N 25-23727-1) damaged.

Human Errors - Hardware Failure

Location

LF M-04 UER056215 (4-1-63) - Rocker arms broken.

LF M-04 UER157906 (5-14-63) - Rocker arms and lock retainers broken.

LF M-08 UER027200 (5-31-63) - Lock retainer (P/N 29-18532-1) broken.

Primary Failure Events

Location

LF O-03 UER161530 (4-16-63) - Cable lock (P/N 26-10852) bent.

LF N-04 UER049861 (5-10-63) - Lock (P/N 25-23714-5) failed to reseal properly.

MAFB - A&CO DATA

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Figure A 1282 - Storage Battery Set, Launch Facility

Pre-Installation Rejections

Location

LF N-05                      UER 071926 (4-20-63) - 4 batteries received at the launch facility with cracks in tops.

Contamination & Damage

Battery rejections after installation and usage due to chips and cracks in battery top:

Location

LF M-11                      UER 056323 (3-29-63)  
                                 E645149

LF M-04                      UER 139006 (4-5-63)

LF L-09                      UER 185483 (4-12-63)

LF N-06                      UER 126400 (4-17-63)

LF N-03                      UER 049961 (4-24-63)

LF L-07                      UER 126371 (4-27-63)

LF O-05                      UER 139516 (5-8-63)

In order to take corrective action to the cracking of the battery tops, the vendor has evaluated various thicknesses of epoxy resin. A proposal for Boeing approval is being released by the vendor.

LF J-04                      UER 135680 (3-20-63) - Broken fill plug.

Quality Control has attempted to correct battery damage problems by submitting a trouble report to the vendor on cracks, gouges, air pockets and voids in the resin coating on the tops of some batteries received at the site. A second Quality Control trouble report was written to initiate an investigation at MAFB on broken caps, cracks, tipped batteries, etc., inflicted by transportation personnel while transporting the batteries to the launch facilities. The transportation unit is aware of these discrepancies and has taken disciplinary corrective action when possible.

Incompletely Analyzed

Location

LF L-08	UER 155478 (4-9-63) - Low cell voltage after charge.
LF M-04	UER 161536 (5-1-63) - High cell voltage.

The vendor is currently evaluating approximately 70 batteries returned for repair. A report will be submitted to Boeing identifying specific problem areas. The "Leakage" problem is currently considered to result from the accumulation of contaminants when batteries are removed from their environmental covers in the CSA and left unprotected until installation in the launch facility or having water added before charging, causing electrolyte to overflow. The low voltage failure events are probably due to individual batteries failing to exhibit the required DC voltage after 96-hour charge. This is the result of using an almost flat battery in a configuration of fully charged batteries.

MAFB - A&CO DATA

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Figure A 1283 - Motor-Generator Set, Launch Facility

Contamination & Damage

Location

LF M-04 UERO49997 (4-17-63) - Torn screen covering DC brushes

Boeing Quality Control has issued trouble reports to both Malmstrom and Ellsworth AFB, requesting that action be taken with assembly and check-out personnel to reduce screen damage which occurs as a result of equipment handling. At the request of Malmstrom Base Installations, Human Factors Unit is evaluating the problem to determine whether a protective cover should be used during motor generator emplacement in the launch facility to protect this screen.

Human Errors - Hardware Failures

Location

LF M-02 UERO49838 (4-17-63) - Motor generator would not start. No A/C to AC motor as over-under frequency relay (P/N 6519-100-2) pins burned off. This results from inadvertent shorting to ground during maintenance operations.  
UERO49849

Incompletely Analyzed

Location

LF L-04 UER138626 (3-29-63) - Motor generator did not start when power was applied.  
01 J-07 UER131580 (4-16-63) - Motor generator appeared to be running hot.  
01 M-04 UER126370 (5-1-63) - S/N 80 motor generator running hot.  
01 M-08 UER138937 (4-26-63) - S/N 153 motor case and R.H. bearing are overheating; operation is noisy and output voltages are high.

Since the overheating which was determined by feel may be the normal result of battery operation or caused by bearing overheating and wear out; the above failures must be classified "Incompletely Analyzed" until retest data is available.



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Figure A 1284 - Launch Facility Power Supply Group

Pre-Installation Rejections

Location

LF J-04 UER 136818 (4-12-63) - Rack S/N 0000145, wiring error.  
UER 038443

Contamination & Damage

Location

LF J-07 UER 063603 (4-29-63) - Rack S/N 0000146, ear broken off of handle, P/N BAC L10ABL.  
LF O-05 UER 139458 (5-9-63) - Rack S/N unknown, ear broken off of handle, P/N BAC L10ABL.  
LF O-07 UER 026808 (6-3-63) - Rack S/N unknown. Handle (P/N BAC L10ABL) broken when received at silo.  
UER 186629

Human Error - Hardware Failures:

Location

The following failures occurred during the check-out of the installation of KECP 584 in Figure A 1337, LF Distribution Box. This KECP should have no effect upon the operation of the Power Supply Group. However, if ACO 523 is left in the check-out test configuration contrary to published instructions, the A-1 drawer can be shorted by the triggering of the ACO 523 by certain steps in the check-out procedure, such as the disconnecting of cable W-548 from the distribution box for the hazardous current check.

LF J-02 UER 035382 (5-3-63) - Rack S/N 0000148  
UER 097765  
LF L-08 UER 049572 (4-30-63) - Rack S/N 0000149  
UER's 049576, 097954  
LF J-10 UER 197801 (5-2-63) - Rack S/N 0000141  
UER 038727

Secondary Failure Events

The following failures of the A-1 Drawer were in all probability caused by the operation of ACO 523. The purpose of the ACO 523 is to protect the G&C package from overvoltage. When an overvoltage condition occurs, a SCR in the ACO is triggered shorting the A-1 drawer, thereby removing voltage from the G&C package.

Location

LF K-04 UER 056247 (4-2-63) - Rack S/N unknown.  
UER 123489

LF J-11 UER 135819 (4-26-63) - Rack S/N 0000125  
UER's 038708, 116419, 097739

LF L-04 UER 185883 (5-3-63) - Rack S/N 0000115  
UER 071574

LF M-07 UER 163651 (5-16-63) - Rack S/N 0000118  
UER 163561

LF J-09 UER 056349 (4-27-63) - Rack S/N 0000134, A-1 Drawer S/N 336.  
UER 135956 - A-1 Drawer S/N 0000020  
UER 175977 - A-1 Drawer S/N 0000025, drawer retested good.  
UER 131469 - A-1 Drawer S/N 0000129  
UER 038706 - A-1 Drawer S/N 0000126

The ACO 523 has been modified by replacing the existing 50-ampere fuse by a 35-ampere fuse with a blow time of 0.3 seconds. The rating of the fuse is well under the 110-ampere short circuit current of the A-1 drawer and the blow time is short enough to open the fuse before the power supply is damaged by the short circuit current. This modification was authorized by PRR 15,212.

The following failure is of a miscellaneous nature:

LF M-03 UER 071611 (5-10-63) - Rack S/N 0000159. Caused by wiring error  
UER 038668 in ACO 114.

Incompletely Analyzed

Location

LF M-11 UER 107358 (5-30-63) - Rack S/N 0000114; A-1 drawer has high  
voltage.

LF M-03 UER 186145 (5-2-63) - Rack S/N 0000159; excessive noise on output.  
UER 097776

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Figure A 1288 - Storage Battery Set, Launch Control Facility

Contamination & Damage

Location

LCF N-01 UER071813 (5-6-63) - Negative terminal threads stripped.

Figure A 1289 - Launch Control System Power Supply Group

Primary Failure Event:

Location

LCF M-01 UER138855 (5-3-63) - Rack S/N 0000017; Circuit breaker defective, P/N BAC C185-2020B.

MAFB - A&CO DATA

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Figure A 1293 - Antenna

Contamination & Damage

Location

LF H-07      U 150753 (4-1-63) - Broken arrester

Primary Failure Events

Location

LF M-06      U 186050 (5-6-63) - Quartz lamp, P/N BAC 11211, does not light.

The following data were obtained from the CSA during routine inspection and/or functional test of hardware prior to delivery to the LF's initial installation:

Contamination & Damage

UERO34853 (3-27-63) - Antenna housing P/N 32762-1 bent apparently in packaging.

Figure A 1294 - Switch, Sensitive

Pre-Installation Failure Events

Location

LF B-07      U 034444 (4-17-63)- Wires to switch, P/N 29-18533-1, reversed.

Contamination & Damage

Location

LF L-10      U 175586 (5-4-63) - Switch, P/N 29-18533-1, damaged during installation of lock housing.

LF M-08      U 107571 (6-3-63) - Switch, P/N 29-18533-1, will not actuate due to water damage.

LF M-02      U 186120 (5-11-63)- Switch, P/N 29-18533-1, shorted & wires burned.

MAFB - A&CO DATA

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Figure A 1295 - Motional Pick-Up Transducer

Pre-Installation Rejections

Location

LF I-05 UER131503 (3-28-63) - S/N 0000234; Open solder joint

Contamination & Damage

Location

LF K-10 UER157639 (3-11-63) - S/N 0000243; Grounded---water damage

Primary Failure Events

Location

LF I-05 UER131499 (3-30-63) - S/N 0000815; No response  
LF K-04 UER138590 (3-30-63) - S/N 0000718; Fails self test  
LF L-03 UER049824 (4-11-63) - S/N 0000694; No response  
LF L-11 UER112682 (4-1-63) - S/N 0000760; Short to ground  
LF J-06 UER063559 (4-26-63) - S/N 0000803; No response  
LF M-03 UER071839 (5-4-63) - S/N 0000157; Open winding  
LF J-10 UER135979 (4-11-63) - S/N 0000840; No response  
LF G-10 UER174331 (2-18-63) - S/N 0000423; Poor solder joint  
UER135421 - Formerly classified as "CSA Pre-Installation".  
LF I-05 UER131499 (3-30-63) - S/N 0000UNK; Gives "NO-GO" ea. 2 min.  
LF K-09 UER 185878 (3-14-63) - S/N 0000190; No response  
LF K-07 UER 168103 (2-26-63)- S/N 0000578; Short to ground  
LF L-11 UER112682 (4-1-63) - S/N 0000760; Short to ground  
LF J-06 UER063559 (4-26-63) - S/N 0000803; No response  
LF K-04 UER138590 (3-4-63) - S/N 0000718; fails self test.

Primary Failure Events

NOTE: The primary cause of trouble with these transducers is poor workmanship as evidenced by the number of poor or open solder joints found by Failure Analysis and at Malmstrom. Failure analysis has also revealed poor internal wiring practices and loose connector pins.

New manufacturing processes have been implemented by the supplier to correct this problem from S/N 751 on. Where possible, rework of the transducers has been accomplished at Malmstrom to correct the workmanship defects.

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Figure A 1296 - Restricted Area Anti-Intrusion Alarm Set

Twenty-six (26) discrete failure events have occurred at the Figure A level and 28 failure events have occurred at the drawer level. It will be noted that the sum of the discrete failure events at drawer level does not equal the total number of discrete failure events at the Figure A level. This is based on the fact that a discrete failure event on the Figure A may be described by Failure Reports written on either one or two drawers, or may involve all three drawers of the Figure A. As an example, a failure of the Figure A is first noted by no RF output from the Receiver-Transmitter drawer and a Failure Report is written on that drawer. Testing of the drawer indicates that the drawer is operating satisfactorily and the Power Supply drawer is then investigated and found at fault; a separate Failure Report is written on the P/S failure. These two Failure Reports are on two different drawers but account for only one discrete Figure A failure event.

Receiver-Transmitter Drawer - 10 Failure Events

Converter-Monitor Drawer - 17 Failure Events

Power Supply Drawer - 1 Failure Event

Pre-Installation Rejections

Location

LF H-10	Converter-Monitor Drawer, P/N 25-27412-52
LF H-10	UER 035006 (3-20-63); S/N 0000118 "Launch Tube" potentiometer out of adjustment. Reclassified from incomplete analysis
LF I-04	Converter-Monitor Drawer, P/N 25-27412-57:
LF I-04	UER 175905 (4-2-63); S/N 0000001 UER 028215 - shorting plug wired wrong.
LF J-07	UER 063438 (4-27-63); S/N 0000153 UER 038412 - potentiometers A2R7 and A2R8 out of adjustment. Readjusted.

Figure A 1296 (Cont'd)

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Pre-Installation Rejections

Location

LF J-04 UER 135722 (4-24-63); S/N 0000115  
UER 038424 - potentiometer A2R3 (BACR14CC103)  
10K should be 5K per 25-27412-57.

Human Errors - Retest Good

Location

Receiver-Transmitter Drawer, P/N 25-22558-1:  
LF I-02 UER 175652 (4-3-63); S/N 0000108

LF H-05 UER 136763 (3-15-63); S/N 0000133

LF I-05 UER 136766 (3-28-63); S/N 0000137

Converter-Monitor Drawer, P/N 25-27412-57:

LF K-04 UER 155766 (3-31-63); S/N 0000086

LF I-05 UER 123108 (4-7-63); S/N 0000104

LF I-05 UER 175798 (4-3-63); S/N 0000014

LF I-07 UER 038470 (4-22-63); S/N 0000086  
UER 123306

LF J-01 UER 035200 (5-8-63); S/N 0000101

LF L-02 UER 071902 (4-18-63); S/N 0000144  
UER 038569 - Reclassified from primary as a result of  
Failure Analysis which shows the required  
small signal of 2 volts lasting for  
less than a second and occurring at a  
random rate is present. This signal  
could easily have been overlooked during  
test of the CM drawer, with the sub-  
sequent rejection.

Primary Failure Events

Retest data pertinent to some primary failure events are only available (at report close-out time) down to the drawer or module level. Such events are considered primary in view of available information indicating the cause of failure to be internal with respect to the replaced component. If later retest data becomes available to provide evidence that the cause was external to the failed equipment, the failure classification will be changed as appropriate.



Figure A 1296 (Cont'd)

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Primary Failure Events

Location

Receiver-Transmitter Drawer, P/N 25-22558-1:

LF I-03

UER 175666 (4-5-63); S/N 0000090

UER 123264, 175756 - Module A-2 (25-33373-9), signal output low. Capacitor C7(441-0377-001) analysis shows a faulty weld in the anode lead.

LF I-07

UER 150687 (4-17-63); S/N 0000017

UER's 123368, 038648, 186361 - Module A-1 (25-33672-10) no 17 cps output. No retest data.  
Module A-6 (25-27329-7) retests good, but module level tests show peak attenuation to occur at 320 MCS, about 20 MCS higher than normal operating frequency. Occasionally this tolerance build-up of modules in the drawer can prevent normal function of the drawer and subsequent rejection of this module.

LF I-05

UER 136766 (3-29-63); S/N 0000108

UER 186347 - Module A-1 (25-33672-10) will not reset.

Converter-Monitor Drawer, P/N 25-27412-57:

LF H-05

UER 123135 (3-28-63); S/N 0000096

UER's 181736, 178998 - Module A-18 (25-33346-24); transistor Q5 (NAA 472-0153-001).

LF I-05

UER 123107 (4-6-63); S/N 0000151

UER's 175795, 178702 - Module A-12 (25-33352-33); Transistors Q11 (472-0157-001) and Q16 (BAC SH2J2) have high leakage.

UER 178691 (Seattle) - Q14 (BAC SH2E2) shorted.

Figure A 1296 (Cont'd)

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Primary Failure Events

ECP 532 has been released to eliminate false security alarms caused by circuit incompatibilities within the Converter-Monitor drawer. It further calls for the redesign of module 25-33350-6 which is a high failure rate module.

Combined Failure Event on Converter-Monitor Drawer and Receiver-Transmitter Drawer:

LF K-03      UER 155687 (3-27-63); S/N 0000123 - Receiver-Transmitter 25-22558-1  
UER's 155697, 123172 - Module A-11 (25-33381-2);  
FAR indicates module retests good.  
UER 123185 (3-28-63); S/N 0000088 - Converter-Monitor 25-27412-57  
Module A-3 (25-33343-20); low output, no retest data.

LF I-04      UER 175689 (5-3-63); Converter-Monitor (25-27412-57)  
S/N 0000001 - No retest data.  
UER 175741 (5-3-63); Receiver-Transmitter (25-22558-1)  
UER 028171      S/N 0000103  
116455      Module A-11 (25-33381-2); crystal  
X1 (BACC46C100) defective.

Incompletely Analyzed

Receiver-Transmitter Drawer, P/N 25-22558-1:

Location

LF K-07      UER 056379 (3-30-63); S/N 0000101 - fails SCNT test.  
LF J-10      UER 035165 (4-1-63); S/N 0000133 - "NO-GO" lamp remains lit.  
UER 028218  
LF M-08      UER 139469 (5-9-63); S/N 0000152 - inadequate test response.  
U 186362

Converter-Monitor Drawer, P/N 25-27412-57:

LF L-10      UER 071654 (4-8-63); S/N 0000006 - "NO-GO" light does not extinguish.  
LF I-05      UER 175800 (4-2-63); S/N 0000050 - inner security alarm false.

U3 4288 2000 REV. 8/62

2-8142-2

REV SYM \_\_\_\_\_

**BOEING**

NO. D2-5286-41

SECT. C

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Figure A 1296 (Cont'd)

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Incompletely Analyzed

LF I-04 UER 175741 (5-3-63); S/N 0000103 - doppler output low.

LF A-05 UER 197866 (4-24-63); S/N 0000038 - doppler DC incorrect.

Power Supply Drawer, P/N 25-22559-1:

LF J-06 UER 063512 (5-11-63); S/N 0000155 - inner zone violation.

The following data were obtained from the CSA during routine inspection and/or functional test of hardware prior to delivery to the LF's for initial installation:

Pre-Installation Rejections

UER 186379 (4-4-63); Power Supply Drawer (25-22559-1) S/N 0000004; out of adjustment when received.

UER 123523 (4-17-63); Converter-Monitor Drawer (25-27412-57) S/N unknown; broken pin on J-17.

UER 028183 (4-11-63); Converter-Monitor Drawer (25-27412-57) S/N 0000052; signals do not switch channel to channel. Module A-1 (25-34192), transistor Q5 (479-0270-001) open, transistor Q12 (472-0153-001) open, diodes CR10, CR16 (472-0002-001) open,

UER's 181235, 117905, 117924

Contamination & Damage

UER 028098 (5-14-63); Receiver- Transmitter Drawer (25-22558-1) S/N 0000142; handle broken on drawer.

UER 097841 (5-14-63); Converter-Monitor Drawer (25-27412-57) S/N 0000051 Connector J-17 (BACC45BR2-63).

Human Error - Resulting in Retest Good:

UER 038561 (4-24-63); Converter-Monitor Drawer (25-27412-57) S/N 0000065.

Primary Failure Events

UER 123523 (4-17-63); Converter-Monitor Drawer (25-27412-57) S/N 0000060.

UER's 186377, 116471 - Module A-14 (25-33349); transistor Q-13 (472-0043-001) open base to emitter.

Figure A 1296 (Cont'd)

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Incompletely Analyzed

UER 028218 (4-3-63); Receiver-Transmitter Drawer (25-22558-1)  
S/N 0000133.

UER 038650 (4-18-63); Receiver-Transmitter Drawer (25-22558-1)  
UER 186363 S/N 0000157

UER 038697 (5-22-63); Receiver-Transmitter Drawer (25-22558-1)  
S/N 0000033.

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Figure A 1302 - Telephone Connecting & Switching Set, AN/GTC-8

Primary Failure Events

Location

LCF J-01 UER 131283 (5-1-63) - The signal from LF J-9 being received too weak at LCF J-1. Replaced drawer, P/N 1274162-501.  
UER 097738 - No output obtained at test points J-45 and J-46 of drawer, P/N 1274162-501. Removed defective filter FL-8, P/N 1270149-1.

Figure A 1303 - Repeater, Telephone Set, AN/GTC-9

Primary Failure Events

Location

LF I-11 UER 131677 (4-1-63) - No output from repeater telephone drawer, P/N 1274175-501.  
UER 131625 - Telephone rings constantly.  
UER 123515 - Filter FL-1, P/N 1270149-501, shorted the input on the drawer.  
LF L-08 UER 138900 (4-9-63) - Ringing oscillator in drawer, P/N 1274175-501, is inoperative.  
UER 038645 - Module A5, P/N 1273039-501, found to have a poor solder joint at capacitor C4.

Incompletely Analyzed

Location

LF N-06 UER 027027 (6-25-63) - During Single Thread Integration testing, the LF Telephone would not ring. Plug P1 and receptacle was burned. The extent of damage to associated electronic equipment is unknown. Plug P1 in Repeater, Telephone Set, P/N 1274176-501.

MAFB - A&CO DATA  
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Figure A 1306 - Telephone (TA-466/GTC-8)

Contamination & Damage

Location

LF I-09 UER 135943 (4-26-63) - Technician dropped Telephone, P/N 1274025-501,  
on floor; broken hand piece.

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Figure A 1318 - Plumbing Set, Guidance & Control, Ground Cooling

Contamination & Damage

Location

LF M-06      UER 139720 (3-14-63) - Insulation damaged and cut on brine supply line.

Primary Failure Events

Location

LF L-7      UER 155444 (4-29-63) }  
LF M-10      UER 071889 (5-2-63) } Leaking hose (P/N AN6270-6-17) between upper G&C coolant tank and solenoid valve.

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Figure A 1337 - Launch Facility Distribution Box

Pre-Installation Rejections

Location

LF I-11 UER 131675 (4-1-63) - S/N 0000140 - Wiring error in rack.  
UER 186411

Contamination and Damage

Location

LF N-04 UER 139728 (5-21-63) - Rack S/N 0000161 - Terminal stud of relay  
K-2 broken during wiring of rack.

Primary Failure Events

Location

LF J-02 UER 136486 (4-16-63) - S/N 0000146. Safe & arm module S/N  
0000199, relay K-1 (BAC-R13AM1A)  
reported as hanging up after power  
applied.

LF M-06 UER 155442 (5-9-63) - S/N 0000156, Safe & arm module S/N 0000219,  
relay K-3 (BAC-R13AJ1) reported to have  
contacts that will not close.

LF M-03 UER 185916 (5-11-63) - S/N 0000145, Safe & arm module S/N 0000184,  
relay K-1 (BAC-R13AM1A) reported as not  
actuating when power is applied.



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Figure A 1338 - Communication Control Console

Pre-Installation Rejections

Location

LCF M-01 UER 186125 (5-2-63) - Communications Control Panel P/N 1274013-503 malfunctioned and was replaced. No further data on cause of malfunction.

Primary Failure Events

Location

LCF I-01 UER 175732 (4-9-63) - On Communication Panel P/N 1274013-503 the LCC button remains continuously illuminated. UER 186423 discloses that Switch S1 KK (LCC) has contacts 9 & 10 welded together. Cause unknown. Switch replaced.

LCF M-01 UER 139539 (5-8-63) - VRSA report barely audible over speaker. Cause unknown. Arming & Status Panel P/N 25-31687-4 was removed and replaced.

MAFB - A&CO DATA

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Figure A 1363 - Jack Box, J1310/GTC-8

Primary Failure Events

Location

LF J-4      UER 135750 (4-12-63) - Voice transmission fuzzy from right hand jack on Jack Box, P/N 1273052-502. No further information available.

Figure A 1365 - Repeater, Telephone Set, AN/GTC-12

Pre-Installation Rejection

Location

LCF L-1      UER 127392 (4-5-63) - Four potentiometers needed adjustment in A-1 drawer, P/N 8324438-501.  
UER 127393, UER 127399

Human Errors - Hardware Failure

Location

LCF C-1      UER 197775 (6-16-63) - Signals not received at drawer A-6. Intermittant open circuit between terminals 4 and 5 of Equalizer, P/N 8628539-502, Pin 4 appears loose.

Faulty Instructions - A&CO Peculiar

Location

LCF M-1      UER 186157 (5-7-63) - "Good light" on EWO lines 2 and 4 not received while testing to D2-11358, Vol. 5 para. 8.6.2.1. ADRN BL-1 did not eliminate discrepancy. Replaced straps corrected discrepancy.

MAFB - A&CO DATA

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Figure A 1366 - Repeater, Telephone Set, AN/GTC-13

Pre-Installation Rejection

Location

LCF N-1 UER 163829 (5-31-63) - "PAS" and "EWO" fault lights illuminated. Potentiometers R44, R45, and R47 needed adjustment in drawer A1, P/N 8324438-502.

Figure A 1367 - Motor-Generator Set, Launch Control System

Incompletely Analyzed

Location

LCF J-01 UER 131428 (4-17-63) - Motor Generator S/N 0000013 will not operate on emergency DC power, neither will the brushes raise when AC power is applied.

MAFB - A&CO DATA

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Figure A 1368 - Radio Set Group

Pre-Installation Rejections

Location

LCF L-01 UER 071804 (4-19-63) - Power Amplifier (P/N 666208-231) power output is outside tolerance.

LCF L-01 UER 071805 (4-21-63) - HF receiver/exciter P/N 666208-021, no power output.

Human Error - Retest Good

Location

LCF K-01 UER 056382 (4-3-63) - HF radio set reported to have no output below 6 mc. Receiver/exciter P/N 666208-021 was removed to CSA, but retested good.

Primary Failure Events

Location

LCF K-01 UER 167956 (4-2-63) - HF transmitter (P/N 666208-231) inoperative. Trouble caused by defective tuner drive motor which stalls RF turret between channels.

LCF J-01 UER 175949 (5-6-63) - HF receiver/exciter (P/N 666208-021) has short that causes power supply 1/16 amp fuse to blow. Remove and replace receiver/exciter drawer and power supply drawer P/N 25-27509-1.

MAFB - A&CO DATA

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Figure A 1373 - Electrical Surge Arrestor Set, LCF

Pre-Installation Rejection

Location

LCF I-01 UER 136796 (4-25-63) - Internal short within surge arrestor  
(P/N 29-21561-1)

Contamination & Damage

Location

LCF N-01 UER 163801 (5-22-63) - Loose terminal stud on surge arrestor  
(P/N 29-21561-1).

Figure A 1374 - Electrical Surge Arrestor Set, LF

Pre-Installation Rejections

Location

LF L-04 UER 056288 (4-8-63) - Resistance of surge arrestor (P/N 29-21561-1)  
is too low.

Low resistance rejections are being controlled by requiring 100% electrical  
testing in Seattle before shipment.

Contamination & Damage

Location

LF L-11 UER 138938 (4-5-63) - Dent in side of surge arrestor (P/N  
29-21561-1) case.

LF L-11 UER 138939 (4-8-63)

LF M-10 UER 071888 (5-1-63)

LF M-07 UER 071859 (4-25-63)

} Terminal studs broken off surge  
arrestor (P/N 29-21561-1)

MAFB - A&CO DATA

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Figure A 1376 - Interconnecting Boxes

Contamination & Damage

Location

LF L-01      UER 616904 (4-20-63) - Stud bolt broken off interconnecting box  
(P/N 25-29556-45)

Figure A 1377 - Interconnecting Box

Pre-Installation Rejections

Location

LF M-07      UER 049672 (4-22-63) - Box wired incorrectly.

Figure A 1379 - Battery Charger Alarm Set Group

Pre-Installation Rejections

Location

LF M-08      UER 112569 (4-3-63) - Toggle switch (P/N 82014HD) installed  
on the switching unit, was broken.

Secondary Failure Events

Location

LF J-06      UER 063713 (5-12-63) - Insulation on wire carrying 36v dc to the  
button-up system is burned in numerous  
places.

CSA DATA

Pre-Installation Rejections

Location

UER 028102 (4-15-62) - Unable to clamp cable because of wire splices.

MAFB - A&CO DATA

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Figure A 1383 - Gear Rack Assembly, Launcher Closure

Contamination & Damage

Location

LF N-07	UER 071718 (4-25-63)	- Base plate bent
LF N-03	UER 049954 (4-19-63)	- Teeth gouged
LF I-10	UER 034991 (4-2-63)	- Teeth gouged
LF M-09	UER 049656 (4-22-63)	- Teeth gouged
LF L-10	UER 049663 (4-22-63)	- Rubber wiper seal torn
LF O-11	UER 163573 (5-14-63)	- Bolt broken

Human Errors - Hardware Failure

Location

LF M-04	UER 056217 (4-3-63)	Broken teeth on rack (P/N 3011Z2-2) apparently due to faulty installation of gearcase motor and/or rough handling of gearcase motor during operation. Personnel have been instructed to exercise care in operation of this equipment.
LF M-09	UER 163573 (5-22-63)	
LF N-02	UER 185951 (5-23-63)	

Figure A 1385 - Distribution Box, Power and Communications

Primary Failure Events

Location

LF M-07	UER 049843 (4-10-63)	Circuit breaker, P/N NEF 212030, reported to be defective. Replaced. No retest data.
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MAFB - A&CO DATA

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Figure A 1412 - Signal Assembly, Voice Reporting

Pre-Installation Rejection

Location

LF M-07 UER 049982 (5-9-63) - Cable P/N BAC45CK12A02P, Wires broken on connector J-01 on MRD 1418 J-box due to improper striping of solid conductors by subcontractor.

Primary Failure Events

Location

LF K-08 UER 152397 (3-29-63) - VRSA P/N 09621000-603A, S/N 0000081, Will not interrogate - no retest data. Replaced by S/N 0000129  
UER 152398 VRSA, P/N 09621000-603A, S/N 0000129, Sticks on Channel #34.  
UER 123469 Interrogation control card P/N 09621300-602A from VRSA, S/N 0000129 retested good by vendor.  
UER 123505 Audio Reproducer, P/N 09621500-601C from VRSA, S/N 0000129 failed. No retest data from vendor.

LF I-02 UER 175649 (4-3-63) - VRSA P/N 09621000-603A Stuck on channel. Retest good in CSA.

LF I-09 UER 175769 (4-1-63) - VRSA P/N 09621000-603A, Will not read out on Channel #9. No further information available.

LF K-08 UER 186404 (4-8-63) - Audio reproducer, P/N 09621500-601C, No output on audio reproducer, P/N 09621500-601C. No output on audio reproducer "B". No further information available.

LF J-01 UER 135777 (4-12-63) - VRSA P/N 09621000-602A, Operation intermittent. Retest good in CSA.

Unk. UER 038600 (4-24-63) - Audio reproducer, P/N 09621500-601B, Stuck on channel until rewind spring broke.

LF L-04 UER 071573 (4-30-63) - VRSA, P/N 09621000-604A, Stuck on Channel #14. Retest good at CSA and returned to site.  
UER 155681 - VRSA, P/N 09621000-604A will not pass self-test operation intermittent. Replaced by workable unit.



Figure A 1412 (Cont'd)  
Page 2 of 3

Primary Failure Events

Location

LF J-06	UER 063407 (5-9-63) - VRSA P/N 09621000-603A cycles continuously and tape is blank.
LF J-08	UER 131565 (5-3-63) - VRSA P/N 09621000-604A failed to read out on Channel 9. Reworked at CSA and returned to LF.
	UER 035379 - VRSA P/N 09621000-604A failed to play channel #9. Returned to CSA where the following cards were changed.
	UER 038707 - Converter input signal #4 P/N 09621250-601A
	UER 038673 - Converter input signal #1 P/N 09621100-601A
	UER 038674 - Converter input signal #2 P/N 09621150-601A
	UER 038675 - Converter input signal #3 P/N 09621200-602A
	UER 038676 - Converter input signal #4 P/N 09621250-601A
	VRSA was then returned to the LF
	UER 136853 VRSA P/N 09621000-604A failed to play Channel #9. Remove and replace with a serviceable unit.
LF J-09	UER 168663 (4-29-63) - VRSA P/N 09621000-603A will not play on Channel "A". Retested good at CSA.
FL M-10	UER 186021 (5-14-63) - VRSA P/N 09621000-604A stuck on Channel #33.
	UER 038656 - Step down sequence module P/N 09621400-601A defective.
LF M-07	UER 027086 (5-31-63) - VRSA, P/N 09621000-604A does not respond to interrogate signal.
	UER 186631 - Audio reproducer "A" P/N 09621500-601C inoperative due to burned circuitry.
	UER 186632 - Audio reproducer "B" P/N 09621500-601C inoperative due to burned circuitry.

NOTE: Excessive cycling of VRSA reported as "sticking on channel" is attributed to mis-adjustment of tape limit switches S4 and S5. The critical adjustment of these switches, which must now be very precise, will be relieved by incorporation of ECP 637, initiated 5-29-63. This critical adjustment is probably also responsible for units failing at a site and later retesting good at the CSA.

Incompletely Analyzed

Location

LF I-6	UER 175722 (4-3-63) - Cannot interrogate from LCF.
LF J-11	UER 135839 (4-12-63) - VRSA inoperative.
LF H-02	UER 071812 (4-20-63) - No report from VRSA.

The following Primary Failures were reported on UER's from CSA only:

UER 028113 (4-17-63)	- P/N 09621500-601C
UER 038582	P/N 09621500-601A - Sticks on Channel 6-20 intermittently.
UER 038807 (5-3-63)	- P/N 09621400 - Bad sequence step down card.
UER 028104 (4-14-63)	- P/N 09621150-601A - Stuck on channel
UER 028146	- P/N 09621400-601A
UER 028113	- P/N 09621500-601C
UER 038656 (5-18-63)	- Control sequence step down card, P/N 09621400-601B, sticks on Channel 33

MAFB - A&CO DATA  
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Figure A 1419 - Fail Safe Antenna

Pre-Installation Rejections

Location

LF M-02 UER 056223 (4-11-63) - Antenna, P/N 25-33369-2. Grounding installation incomplete.

LF K-04 UER 155668 (3-29-63) - Antenna, P/N 25-33369-2. Wired incorrectly.

Contamination & Damage

Location

LF I-07 UER 150692 (3-28-63) - Antenna, P/N 25-33369-2, S/N 0000239. Antenna broken in half by truck.

LF M-08 UER 152378 (4-3-63) - Cable, P/N 24-2204, S/N 1421. Insulation torn, split, by vehicle tire.

LF M-08 UER 138914 (4-16-63) - Antenna, P/N 25-33369-2, S/N 279. Antenna damaged by van door.

LF M-07 UER 139777 (5-14-63) - Antenna, P/N 25-33369-2, both antennae bases chipped and cracked.

Primary Failure Events

Location

LF J-06 UER 063402 (4-25-63) - Fail safe modulator P/N 29-26018-1 has low output. No retest data.

LF J-02 UER 136488 (4-19-63) - Modulator, P/N 29-26018-1, S/N 0000238. Modulator inoperative. No retest data.

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Figure A 1425 - Arrestor Assembly, Electrical Surge

Contamination & Damage

Location

LF 0-01 UER 026787 (5-28-63) - Terminal broken off surge arrestor,  
P/N 25-35604-1.

MAFB - A&CO DATA  
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Figure A 1600 - Door, Launcher Personnel Access, Primary

Pre-Installation Rejections

Location

LF I-03	UER 175709 (4-8-63)	- Several small cracks in grouting on Personnel Access Hatch lid cover.
LF L-04	UER 155685 (5-2-63)	- Hinge pins are binding on Personnel Access Hatch lid cover.
LF N-08	UER 167991 (4-30-63)	- Hatch cover hinge seal bolt holes are mismatched with bolt holes in door by approximately 0.50 inch.
LF J-05	UER 035303 (5-1-63)	- Separation of the bond between the Hatch Annular Ring and the surrounding grout.
LF N-05	UER 049855 (5-21-63)	- Magnetic portion of Magnet Switch Assembly, P/N PA 26544, is missing from the Personnel Access Hatch.
LF J-06	UER 063410 (5-1-63)	- Hatch lid has two hollow spots approximately one foot square that require grouting.

Contamination & Damage

Location

The following events are on damaged Preformed Rubber Compression Seals:

LF J-03	UER 131445 (4-17-63)
LF M-11	UER 155726 (4-23-63)
LF L-06	UER 186045 (5-3-63)
LF M-08	UER 049582 (5-8-63)
LF M-05	UER 026880 (5-21-63)
LF M-11	UER 139512 (5-15-63)

The following events are on damaged braided wire electromagnetic seals:

LF I-03	UER 135994 (4-29-63)
LF M-03	UER 049711 (4-24-63)
LF M-06	UER 186173 (5-21-63)

Contamination & Damage (cont'd)

Location

The following events are on damage to the hatch lid cover assembly:

- LF M-05 UER 071754 (4-25-63) - Hinge seal on lid cover has welds broken in two places.
- LF M-02 UER 049589 (4-25-63) - Access hatch hinge seal cover hinge pins broken, and hinge blocks bent out of alignment
- LF J-02 UER 136782 (4-25-63) - Access hatch cover to second level has a broken hinge.
- LF J-10 UER 135809 (4-21-63) - Rubber hatch cover hinge seal is damaged.
- LF M-04 UER 136854 (5-23-63) - Hatch hinge rubber seal is cracked in two places.

The following are unrelated items of damage:

- LF N-06 UER 138965 (4-11-63) - Hatch bearing ring is rusty and has water on the ring.
- LF J-02 UER 159319 (5-1-63) - Primary door switch broken off switch box in security pit.
- LF O-05 UER 139453 (5-7-63) - Bottom of top sealing groove on access hatch is rusty.
- LF N-08 UER 056072 (5-28-63) - There are several pin hole water leaks located below hatch bearing ring, and also above the collimator bench.
- LF M-08 UER 139470 (5-10-63) - ADT switch on Personnel Hatch has a crushed wire.
- LF M-03 UER 026865 (5-23-63) - Door ring has struck the angle ring separating the angle ring from the epoxy.

MAFB - A&CO DATA

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Figure A 1601 - Cylinder Assembly, Actuating, Linear

Pre-Installation Rejections

Location

- LF N-09      UER 126368 (4-5-63) - A fine spray can be observed around the base when the pump applies pressure. Fixed by tightening loose screw on bottom of actuator.
- LF I-04      UER 131493 (4-2-63) - Hydraulic cylinder has leak. Fixed by tightening loose screw on cylinder.
- LF N-07      UER 139707 (5-14-63) - Hydraulic Actuator has 1/16-inch deep sanding marks on it.

Contamination & Damage

Location

- LF M-03      UER 026867 (5-23-63) - Hydraulic Actuator has rust on top of the piston, a nick in the piston below the rust area, and several burnished areas.
- LF O-09      UER 155717 (4-25-63) - Hydraulic Actuator has deep scratch or gouge caused by grinding tool.
- LF M-07      UER 139772 (5-17-63) - Hydraulic Actuator piston shaft was too badly pitted and scored to be acceptable.

Primary Failure Events

Location

- LF O-07      UER 107613 (6-6-63) - Hydraulic Actuator piston shafts are binding.

MAFB - A&CO DATA  
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Figure A 1602 - Pumping Unit, Hydraulic

Pre-Installation Rejections

Items such as leaking hydraulic fittings are classified as Pre-Installation Rejections even though they are detected during initial operation and Maintenance Inspections. The reason for this is that only gross obvious leakages show up on initial system operation and slow leakages such as those caused by marginally tightened fittings show up only after the system has operated a while.

Location

LF O-03 UER 071915 (5-6-63) - Fittings on hydraulic pump are leaking.  
LF N-04 UER 071716 (4-23-63) - Drain plug on hydraulic reserve oil supply tank leaks hydraulic fluid.

Contamination & Damage

Location

LF A-Q8 ER 119767 (4-1-63) - Face glass on pressure gauge of the hydraulic pump broken.

Primary Failure Events

The following failures are on the hydraulic gauge, P/N 2-1/2 inch-5DP-RB ( 0 - 2000 psi), by the J. P. March Instrument Company.

Location

LF L-05 UER 126332 (4-15-63) - Gauge inoperative.  
LF N-10 UER 157826 (4-8-63) - Pressure snubber to hydraulic gauge broken.  
LF O-07 ER 514267 (4-26-63) - Hydraulic gauge is ruptured and leaking oil.  
LF I-06 UER 168675 (4-8-63) - Gauge inoperative.  
LF M-09 UER 138933 (4-8-63) - Gauge inoperative.  
LF J-11 UER 135820 (4-30-63) - Gauge is faulty.  
LF M-02 UER 185741 (4-25-63) - Gauge defective.  
LF N-04 UER 524658 (4-25-63) - Gauge broken.  
LF M-11 UER 155704 (4-24-63) - Gauge will not return to zero after pressure is removed. Needle stops at 200 psi.



Primary Failure Events (cont'd)

Location

LF M-11 UER 071868 (4-20-63) - Pressure gauge is leaking hydraulic oil and apparently has ruptured.

The following failures are on the electrically driven hydraulic pressure pump, P/N OH2BSV1-L-SP, by Webster Electric Co.

LF I-03 UER 063693 (4-11-63) - S/N 275533. Hydraulic pressure below minimum requirements.

LF M-04 UER 161532 (4-25-63) - S/N 255559. Unable to operate Primary Door because of low hydraulic pressure.

LF J-08 UER 135892 (4-18-63) - S/N 27556. Hydraulic pump has a low output of approximately 600 psi.

LF J-02 UER 136485 (4-16-63) - S/N 275569. Hydraulic pump will not produce the required pressure to open the hatch.

MAFB - A&CO DATA  
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Figure A 1603 - Piping & Control Set, Hydraulic, Launcher Personnel Access

Contamination & Damage

Location

LF O-06 UER 071917 (5-4-63) - ADT switch, P/N PA-29480, contains moisture and is corroded.

Primary Failure Events

Location

LF O-02 UER 155719 (5-2-63) - The 4-way hydraulic valve is leaking. Replaced valve.

LF M-04 UER 056214 (4-1-63) - The 4-way hydraulic valve has an open solenoid. Replaced valve.

LF N-04 UER 139726 (5-16-63) - 4-way hydraulic valve, P/N T-CP-R13, S/N G44828, is noisy. When cover was removed, rust and corrosion was in evidence.

LF O-09 UER 139746 (5-16-63) - 4-way hydraulic valve, P/N T-CP-R13, S/N G45305, leaking hydraulic fluid from under the solenoid cover.

LF M-03 UER 139699 (6-4-63) - Solenoid to 4-way valve inoperative; appears to have overheated and cracked.

Incompletely Analyzed

Location

LF N-09 UER 163596 (5-27-63) - 4-way hydraulic valve solenoid clicks in and out constantly.

MAFB - A&CO DATA  
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Figure A 1604 - Door, Launching, Personnel Access, Secondary

### Pre-Installation Rejections

Location

LF M-08	UER 138916 (4-17-63) UER 138918	- Primary positioning switch will not rewind and is hard to extend when pulled by hand. Received in this condition.
LF M-08	UER 071911 (4-20-63)	- Secondary door rides against first level deck plate, causing door to run off center and score the guide rail.
LF L-11	UER 186129 (5-3-63)	- The indicator light, on top of the secondary door, has a defective socket.
LF K-11	UER 197829 (5-28-63)	- Cable plug wired in reverse phase.
LF N-04	UER 138659 (6-10-63) UER 026794	- Combination lock microswitches out-of-adjustment. Switches re-adjusted to enable the combination scramble to operate.

### Contamination & Damage

Location

LF L-02 UER 138694 (4-25-63) - Lock mechanism, P/N 180-12, S/N 222181, combination excessively hard to rotate. Possible corrosion.

LF I-10 UER 175942 (4-10-63) - Secondary door has rust forming on its top surface.

MAFB - A&CO DATA  
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Figure A 1605 - Actuator, Electro-Mechanical, Linear Launcher  
Personnel Access

Pre-Installation Rejections

Location

LF M-05 UER 185906 (4-29-63) - Overload relay, P/N GE 81D45, located in the control box has an electrical open heater wire.

Contamination & Damage

Location

LF L-02 UER 071663 (4-13-63) - Terminal stud broken off electrical filter, P/N GF-3201-1. Not enough threads left to allow terminal connection.

Primary Failure Events

Location

LF M-06 UER 071738 (4-16-63) - Position limit switch, P/N 4132R80, S/N 143, cannot be set because cable will not retract.

LF J-04 UER 135721 (4-22-63) - Linear Mechanical Actuator will not operate. Replaced defective Motor Timer, P/N H12E30M, S/N Z2752A.

Incompletely Analyzed

Location

LF M-06 UER 071737 (4-17-63) - Selector switch assembly, P/N GE CR2940UB-202P broken.

LF L-08 UER 186135 (5-3-63) - Magnetic switch, P/N 29480, on Primary Hatch is intermittent.

LF L-05 UER 126324 (4-10-63) - Electro-Mech. Linear Actuator, P/N 3037-1101, S/N BBB0116, binds at approximately two feet from the bottom.

MAFB - A&CO DATA  
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Figure A 1606 - Wiring & Control Set, Electrical Launcher,  
Personnel Access

Contamination & Damage

Location

LF L-08 UER 127211 (3-28-63) - Light lens in access hatchway broken.

LF M-07 UER 163744 (5-16-63) - Cover plate to Junction Box terminal block is cracked and chipped.

Primary Failure Events

Location

LF O-11 UER 157825 (4-1-63) - RFI filter, P/N CDF-1003-2, is leaking oil.

Incompletely Analyzed

Location

LF B-06 UER 186135 (5-3-63) - Magnetic Switch, P/N PA-29480, on Personnel Access Hatch is intermittent.

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Figure A 1607 - Security & Alarm Set, Launcher Personnel Access

Pre-Installation Rejections

Location

- LF M-08 UER 139471 (5-10-63) - Misadjustment of microswitch caused a "not fully locked" indication on light panel in Secondary Door even though the locking pins on the Secondary Door were in the fully extended position.
- LF J-04 UER 063708 (5-8-63) - DC-DC Converter has internal short. On re-check a fuse was found missing.

Contamination & Damage

Location

- LF L-09 UER 167954 (4-29-63) - Cable Assembly, P/N 3037-1438, to Junction Box has a tear of approximately 3 inches through outer insulation and shielding.
- LF J-06 UER 147090 (5-27-63) - Key Lock, P/N 3037-1581, broken. Job CCP 300 D2-27/1 removes this lock assembly for it is no longer needed.
- LF J-06 UER 097828 (5-13-63) - Cable Assembly W-3, P/N 3037-1436, S/N 22, has a broken plug.
- LF J-06 UER 035198 (5-10-63) - Security Pit Cable Assembly, P/N 3037-1436, has been cut by an instrument or tool near the plug that goes to the hatch locking device.

Human Error - Hardware Failure

Location

- Unk. UER 197830 (5-29-63) - DC-DC Converter burned out because 28v output was grounded out of test sequence.

Primary Failure Events

The following failures are on the DC-DC Power Converter (regulator), P/N PC-1152 or PC-1152-1. No retest data is available.

Location

LF I-07	UER 150704 (4-18-63) - S/N 0000046. No output.
LF J-10	UER 197805 (5-6-63) - S/N 0000236. Burned out.
LF J-05	UER 097815 (5-14-63) - S/N 0000166. Inoperative.
LF J-02	UER 131430 (4-28-63) - S/N 0000180. Burned out.
LF I-09	UER 175745 (4-27-63) - S/N 0000059. No output.
LF I-02	UER 146197 (4-26-63) - S/N PA00053. Burned out.
LF M-11	UER 139514 (5-15-63) - S/N PA00165. Burned out.
LF J-06	UER 097814 (5-13-63) - S/N 0000173. Burned out.
LF M-02	UER 186121 (5-14-63) - S/N 0000113. No output.
LF J-05	UER 146283 (5-9-63) - S/N PA00171. No output.
LF N-05	UER 107606 (6-11-63) - DC-DC Converter, P/N 10PE107, S/N 392, has incorrect response on Battery Units 458 and 495.

One failure cause is believed to be a transient voltage generated by disconnecting Figure A 1282 battery loads in the wrong sequence. Corrective action per MIP 0063-1495 and OGOMD 18-2341.

Another failure cause is related to a ground loop created when the Wing II Pasadena 10PE107 DC-DC converter is used in the Wing I system. Corrective action to this problem is the subject of ECP 672.

MAFB - A&CO DATA

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Figure A 1608 - Door, Vault, Security Pit

Contamination and Damage

Location

- LF L-04 UER 049817 (4-16-63) - Locking pins were stuck. Bottom cover was removed and the very dirty and corroded pins were cleaned and lubricated.
- LF L-11 UER 186127 (5-3-63) - Security Pit Cable, P/N 3037-1015, S/N DDD-0084, found to be torn.

Primary Failure Events

Location

- LF K-09 UER 155513 (4-1-63) - Inner Security will not reset. There is no continuity between pins 3 & 4 for any setting of the Combination Dial.
- LF M-05 UER 056222 (4-9-63) - Security Pit Door Switch, P/N 3037 - 1015501, has burned out.
- LF M-11 UER 026884 (5-31-63) - The Combination Lock will not operate. No additional information received.



MAFB - A&CO DATA

March 28 thru June 26, 1963

Figure A 1611 - Ladder, Telescoping, Launcher, Personnel Access

Pre-Installation Rejections

Location

LF L-09	UER 155636 (4-30-63)	- Telescoping ladder, P/N 3037-1060-1, S/N 118, has screws holding upper rung broken off and the upper rung bent.
LF M-08	UER 049907 (5-3-63)	- Telescoping ladder and Portable ladder coupling holes do not match: Fill in mismatched holes and redrill to match.
LF O-07	UER 163746 (5-11-63)	- Telescoping ladder received with the CCP-3002-16/1 modification incorporated. Ladder is cut off at the bottom, but not deburred and rounded out.
LF L-09	UER 155636 (4-30-63)	- Telescoping ladder, P/N 3037-10604, S/N 118, has screws holding upper rung, broken off, and the upper rung is bent.

The following rejections were caused by ladders that were too short. Installation of these ladders was made possible by the addition of shims.

LF M-07	UER 139790 (5-16-63)	-
LF O-07	UER 185501 (5-22-63)	-
LF N-10	UER 185558 (5-16-63)	-
LF N-02	UER 139587 (5-16-63)	-
LF N-08	UER 056076 (5-15-63)	-
LF N-11	UER 185559 (5-16-63)	-
LF N-09	UER 157740 (5-9-63)	-

Human Error - Hardware Failure

Location

LF I-11	UER 063505 (4-22-63)	- and UER 063493 - Portable ladder
---------	----------------------	------------------------------------

Figure A 1611 (Cont'd)

Page 2 of 2

Human Error

has been crushed and the left hand rail of the telescoping ladder has been crushed by the primary hatch closure.

Primary Failure Events

Location

LF L-05 UER 127187 (4-24-63) - and UER 127189 (4-15-63) - Telescoping ladder jammed while closing secondary door, and bent wall mounting bracket.

MAFB - AACO DATA

March 28, thru June 26, 1963

Figure A 3092 - Programmer Group Test Set

The following data were obtained from failure events which occurred in the CSA:

Pre-Installation Rejections

UER 186467 (4-9-63) - logic case, P/N 25-26825-5, not wired per drawing.

UER 038391 (4-29-63) - card reader, P/N 25-27139-6, switch SW62-5 cannot be actuated downward - switch disassembled to free pin.

Primary Failure Events

UER 028079 (4-12-63) - Module P/N 25-29105-10 does not respond to test; no retest data.

MAFB - A&CO DATA

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Figure A 3109 - Alarm Set Test Set

CSA DATA

Pre-Installation Rejections

UER 186413 (4-12-63); wiring shorted.

UER 123468 (4-3-63); broken wires.

UER 123208 (3-22-63); broken wire.

UER 123455 (3-31-63); card failed during functional test of KECP 532 installation.

Contamination & Damage

UER 144094 (3-14-63); 25-26829-1 wire to S78, Pin 29 broken off.

UER 038497 (4-27-63); 25-26829-1 wire to S8D-21 broken at solder joint.

UER 038494 (4-27-63); Fault locator 25-26829-1 wire to S8A-26 broken at solder joint.

Figure A 3113 - Dummy Decoder - Relay Assembly

The following data were obtained from failure events which occurred in the CSA:

Pre-Installation Rejections

UER 038786 (5-2-63); Wiring error in Dummy Decoder (P/N 25-26834-15).

MAFB - A&CO DATA

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Figure A/ACO 4012 - Test Set, Data Analysis Central, AN/GYM-1

Pre-Installation Rejections

Location

CSA UERO38531 (4-26-63) - Test Set failed self-verification.  
Diode Unit A139, P/N 8747092-501  
had touching wires.

Primary Failure Events

Location

CSA UER 123165 (3-28-63) - Module A89, P/N 8624095-501, has  
no output on Pin 17; returned to  
RCA.

CSA UER 028090 (4-16-63) - Module A20, P/N 8624095-501, no  
output on Pin 31; returned to RCA.

CSA UER 028092 (4-16-63) - Module A57, P/N 8625755-501, has  
a -10 volt output on pin 29, should  
be -6 volts.

UER 186408 - Module A44, P/N 8625755-501, has incorrect  
output.

UER 028093 - Module, P/N 8625755, reference symbol  
unknown, has no output.

UER 038606 - Diode Unit A143, P/N 8747092-501, has an  
open diode, P/N 8935922-1, between pins  
7 and 19.

UER 038607 - Diode Unit A144, P/N 8747092-501, has an  
open diode, P/N 8935922-1, between pins  
9 and 21.

CSA UER 038732 (5-6-63) - Diode Unit A144, P/N 8747092-501,  
has an open diode, P/N 8935922-1,  
between pins 11 and 23. Diode Unit  
A152, P/N 8747092-501 has an open  
diode, P/N 8935922-1, between pins  
10 and 21.

LF M-7 UER 071564 (5-21-63) - Test Set, P/N 8321617-512, S/N  
0000020, failed while testing  
Fig A 1251.

Figure A 4012 (Cont'd)

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Primary Failure Events

Location

CSA UER 097893 - Module A40, P/N 8624096-501 has pins 32, 38 and 39 shorted together.

CSA UER 098035 (5-26-63) - Module A75, P/N 8624075-501, has no output at pin 31.

UER 098044 - Module A84, P/N 8624075-501, has no output at pin 7.

CSA UER 097918 (5-29-63) - Module A59, P/N 8626652-501, produces and intermittent fault on program board L/5B. No further information available.

CSA UER 097991 (5-29-63) - Module, P/N 8624095-501, has no output at pin 19.

CSA UER 186691 (6-4-63) - Module A60, P/N 8624094-501, has a constant output at pin 35, the output should be a pulse.

CSA UER 186692 (6-4-63) - Diode Unit A141, P/N 8747092-501 has a diode, P/N 8935922-1, with a low front to back resistance.

UER 186993 - Module A16, P/N 8624075-501, has pin 16 grounded.

The above events are considered to be Primary Failure Events based on the latest available information, although subject to reclassification upon receipt of supplemental data.

Incompletely Analyzed

Location

CSA UER 038736 (5-8-63) - Switch S5C had a broken wire at pin 7.

MAFB - A&CO DATA

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Figure A 4018 - Adapter Group, Test

Pre-Installation Rejections

Location

SMSB	UER 127133 (4-10-63)	- Punched tape, P/N 25-32804-44, SN-2 has three commands missing.
SMSB	UER 127134 (4-10-63)	- Punched tape, P/N 25-32171-42, SN-1 has three commands missing.
CSA	UER 038646 (4-26-63)	- "NO-GO" and erratic operation while testing adapter group P/N 25-26876-4. Replaced four damaged jumpers and readjusted voltage regulator.
CSA	UER 097736 (5-9-63)	- Signal Generator drawer P/N 1193071- 501 fails self-test. Trouble traced to defective A-3 Module P/N 8619233- 301. Removed & replaced module.

Primary Failure Events

Location

SMSB	UER 135360 (4-23-63)	- Waveform Converter Drawer A-7 (P/N 1193072-501) fails test.
	UER 135181 (4-23-63)	- A-11 module (P/N 8624535-501) S/N 29, replaced. No further data.

MAFB - A&CO DATA

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Figure A 4024 - Semi-Trailer, Re-Entry Vehicle, G&C Section

Contamination & Damage

- UER 184549 (3-29-63) - Hoist Drive Chain, Diamond P/N 40, damaged.  
UER 056282 Replaced.
- UER 184341 (4-18-63) - Locking Bolt, Eberhard Mfg. Co. P/N 5631- $\frac{1}{2}$   
broken. Part of Door Lock Ass'y, Eberhard  
P/N 2L213JA4. Replaced lock assembly.
- UER 057912 (4-30-63) - Rivets joining environmental cover hinge to  
van are sheared off. Repaired.
- UER 057949 (5-3-63) - Sheet metal loose on Environmental Cover Flap  
Assembly P/N 25-21259-1. Repaired.
- UER 184561 (4-3-63) - Pulley, P/N AN210-3B, on environmental cover  
winch broken. Winch gears badly worn. Replaced  
pulley & winch (Standard Mfg. Co. P/N 2L21DA).

Primary Failure Events

- UER 057870 (4-11-63) - Components of left and right hand Landing Gear  
Jacks, Standard Mfg. Co. P/N 2L370D, have excess-  
ive wear. Jacks are manufactured by Austin  
Trailer Equipment Co. (P/N's L-5443 and R-5440).  
Worn parts to be replaced with parts having  
greater wear resistance per ECP 531.
- UER 058068 (5-24-63) - G&C Air Conditioning Unit would not provide  
cooling air. Blower wheel, Torrington Mfg. Co.  
Airotor #610, found broken loose from wheel hub.  
Replaced blower wheel.

Figure A 4025 - Container, Safe & Arm Pins

Contamination & Damage

Location

- LF 0-10 UER 163911 (5-18-63) - Container (P/N 29-21388-1) broken.



MAFB - A&CO DATA

March 28 thru June 26, 1963

Figure A 4028 - Adapter, Hoisting, G&C Section

Contamination & Damage

UER 152627 (4-1-63) - One retaining chain broken on Adapter P/N 25-19524-1.

Figure A 4031 - Truck, Mechanical Maintenance

Contamination & Damage

UER 058045 (5-23-63) - Van side has large dent and crack in external sheet metal. Caused by rear van doors slamming into side. No protective stops.

MAFB - A&CO DATA

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Figure A 4043 - Elevator & Work Cage

Primary Failure Events

Location

LF I-10 UER 131538 (3-30-63) - Cable hook (P/N GS3829) broken.

Sixteen events have been reported from the CSA: No correlation has been noted with malfunctions reported from the launch facilities.

\*UER 136849 (4-6-63) - loose cable connector.

\*UER 136850 (4-6-63) - level wind out of adjustment.

\*UER 127136 (4-10-63) - wrong power hook-up caused relay and diode failure in cage control box.

UER 156388 (4-30-63) - Support Structure, P/N GS4030, damaged.

UER 127098 (4-26-63) - cracked welds - fell off truck.

UER 127077 (4-30-63) - cracked welds.

UER 156389 (4-30-63) - Motor Brake, P/N GS3502, inoperative.

\*UER 156328 (4-15-63) - Limit Switch, P/N GS3524-1, inoperative.

\*UER 156331 (4-16-63) - Limit Switch, P/N unknown, out of adjustment.

\*UER 156332 (4-18-63) - Relay, P/N GS4043A, inoperative.

\*UER 127124 (4-3-63) - Relay, P/N GS4043, inoperative.

\*UER 127127 (4-8-63) - Relay, P/N GS4043, inoperative.

\*UER 127132 (4-8-63) - Hook, P/N GS3829, parted from cable, P/N GS3505.

\*UER 184430 (4-26-63) - Control Box (P/N GS3569) inoperative. Also cage (P/N 25-18605) has cracked welds.

UER 156408 (5-13-63) - Traverse wheel badly worn.

UER 156307 (5-25-63) - Cable (P/N 25-37283-3) insulation damaged.

\* Failures were encountered during incorporation of KECP 392 in the CSA.

MAFB - A&CO DATA

Mar. 28 thru June 26, 1963

Figure A 4059 - Transporter-Erector Semi-Trailer

Pre-Installation Rejections

- UER 184438 (4-24-63); Quality Control discrepancy check shows that the King Pin, Cessna P/N 4711092-23, has been heat treated to excessive hardness, thus creating a hazard due to brittleness.
- UER 184572 (5-22-63)
- UER 184514 (5-15-63); Defective O-ring seal allowed oil leakage from outlet of emergency hand pump assembly. Replace O-ring.

Note: The above rejections reflect "as received" equipment discrepancies.

Contamination & Damage

- UER 184511 (4-12-63); Aft lower left hand Restraint Rod Bracket Assembly, Cessna P/N 4710101-3, broken. Replaced.
- UER 184323 (4-5-63); Right hand rear door seal of container pulled loose on inboard edge. Re-riveted seal in place.
- UER 057873 (4-19-63); Emergency brake relay valve leaking. Removed, cleaned, and re-installed.
- UER 084411 (4-2-63); Door latch and "T" hold-down bracket damaged. Repaired.
- UER 184431 (4-23-63); Quick Release Pin, P/N BAC P18AHL6L48HC, for landing gear is broken. Replaced.
- UER 057847 (4-26-63); Sling Rod, P/N 25-18644-4, gouged. Replaced upper sling rod assembly, 29-16088-1.
- UER 127040 (5-1-63); Turn buckle on 1st Stage Carriage Tie Down frozen. Replaced turn buckle.
- UER 184577 (4-9-63); Quick Release Pin, BAC P18AML6L48HC, on left hand landing gear has broken handle. Replaced.
- UER 184554
- UER 057947 (5-2-63); Angle, Cessna P/N 4710100-18, which retains sling rod bracket has release pin hole torn out. Replaced angle.
- UER 184515 (3-26-63); Rubber weather seal torn away from personnel access door. Replaced.
- UER 068524 (3-26-63); Hoist sling rod stowage bracket (right hand front) broken. Replaced bracket.

Human Error - Hardware Failure

- UER 184505 (3-30-63); Electrical conduit bent and conduit holding clamp broken while lowering container when step ladder was propped against side of container.

Primary Failure Events

- UER 184444 (5-14-63) - Third Cylinder, Bendix P/N 174819, of Actuator Assembly, Bendix P/N 3059358, cracked during missile emplacement operation allowing leakage of hydraulic fluid under pressure (approximately 6 gallons were lost). Actuator assembly, S/N 0180043, was replaced and routed for failure analysis.
- EUR CSD 18-63-97 (2-23-63) - Bulges in container at container to carriage tie down points. Metal fatigue and cracks in container bulkhead. Hydraulic fluid expansion problem. ECP B&MD 153 proposes addition of a relief valve to T-E container hydraulic elevating system.
- \*UER 184276 (2-25-63) - Flow limiter of left hand Actuator, Bendix P/N 2571172F, malfunctioned causing T-E container to "rack" (twist) due to unequal hydraulic pressure on the two actuators. The "racking" of the container bent the main front cross member of Rear Carriage, GMC P/N 2433254. Actuator and rear carriage were replaced and routed for failure analysis. Flow limiters have been replaced by fixed orifices per KECP 316.
- UER 148561  
UER 184277

Incompletely Analyzed

- UER 068874 (2-14-63) - Hoist Hydraulic Motor, Bendix P/N 3057085. Motor case cracked. Will not hold hydraulic fluid under pressure. Replaced motor.
- \*Previously reported as Incompletely Analyzed. Receipt of UER's 148561 and 184277 plus failure investigation results now allow positive categorization.

MAFB - AS&CO DATA

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Figure A 4062 - Truck, Targeting

Contamination & Damage

- UER 058072 (5-28-63); Bracket assemblies on rear van doors for holding  
UER 058073 doors open pulled loose. Hole torn in van left  
hand side where mating portion of bracket assembly  
pulled out. Repaired.
- UER 184210 (5-27-63); Bolts sheared off on center locking cam of right  
rear van door. Set screw stripped in lower locking  
cam. Replaced bolts and set screw.
- UER 058075 (5-28-63); Right hand front door window cracked. Replaced.
- UER 058047 (5-10-63); Right hand rear door window broken. Replaced.

Primary Failure Events

- UER 057840 (4-21-63); Armature on Generator, Delco-Remy P/N 1102191, burned  
out. Replaced.

Figure A 4075 - Transporter-Erector Tractor

Contamination & Damage

- UER 184589 (3-28-63); Exhaust pipe clamp broken. Replaced.
- UER 068862 (4-3-63); Clearance light broken off right hand upper front  
corner of cab. Replaced.
- UER 057895 (3-28-63); Inside handle on right hand front door inoperative.  
Replaced snap lock on linkage.
- UER 057839 (4-24-63); Insulation, P/N 82942, on tractor to container  
environmental hoses disintegrating. Replaced.

Human Error - Hardware Failure

- UER 057868 (4-11-63); Water in system caused pressure protection valve in  
air suspension system to stick and prevent lifting of  
loaded container. Pre-operation checkout procedures  
of T.O. 21-SM80A-2-2 require drainage of the pneumatic  
tanks. Procedure is adequate to prevent the described  
condition.

Primary Failure Events

- UER 184556 (4-2-63); Air assist shaft on transmission bent. Shifting  
difficult with shaft in this condition. Replaced

Primary Failure Events (Cont.)

- air assist cylinder, P/N 2452495.
- UER 057882 (4-11-63); Engine ran rough and cut out enroute to install missile. Caravan stopped and tractor replaced.
- UER 057885 Spark plugs replaced and dwell and timing checked.
- UER 058003 (5-14-63); 5th wheel electric motor, Delco-Remy P/N 5700080, inoperative. Turned armature and installed new brushes.
- \*UER 058090 (5-30-63); Printed circuit panel, GMC P/N 5655998, failed causing fuel quantity indicator to be inoperative. Replaced printed circuit panel.

\*These events involve true primary failures of parts; however, since these failures would not delay or prevent delivery and emplacement, or removal of a missile, such failures do not count against the reliability of the Figure A.

Incompletely Analyzed

- UER 058069 (5-25-63); Starter solenoid wire, GMC P/N 1119833-12V, broken. Replaced.

MAFB - A&CO DATA

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Figure A 4105 - Gearcase-Motor, Launcher Closure

Primary Failure Events

Location

Unk. R/T 316589 (4-1-63) - Power Control, P/N P100E2-1A, inoperative.

Figure A 4119 - Truck, Transporter-Erector Support

Contamination & Damage

- UER 057829 (4-16-63) - Top P/N 25-18695-13. Mounting bolt holes for right hand hood hinge bracket torn out. Repair.
- UER 057771 (4-18-63) - Right hand door glass shattered. Replaced.
- UER 057983 (5-13-63) - Van R/H side has a large dent & crack in external sheet metal - caused by rear door slamming into side of van. Repaired.

Primary Failure Events

- \*UER 184585 (4-8-63) - 1" x 3" section broken out of emergency brake-drum causing vibrations in the drive assembly. Replaced brakedrum.
- \*UER 184550 (4-17-63) - Mopar P/N 1939 386 Voltage Limiter failed causing temperature and gas gauges to be inoperative. Replaced.
- \*UER 057896 (3-28-63) - Speedometer cable failed. Replaced.

\* These events involve true primary failures of parts. However, since these failures would not delay or prevent delivery, emplacement or removal of a missile, such failures do not count against the reliability of the Figure A.

MAFB - A&CO DATA

March 28 through June 26, 1963

Figure A 4129 - Trailer, Ballistic Missile

Contamination & Damage

UER 184586 (4-9-63) - Landing Gear Locking Mechanism, P/N 6507-257, broken.  
Replaced during lubrication and maintenance.



MAFB - A&CO DATA  
March 28 through June 26, 1963

Figure A 4150 - Test Repair Set; Cooler, Liquid, G&C

Primary Failure Events

The following failure occurred on the G&C Cooler test repair bench,  
P/N 25-33383-1, located at the SMSB:

UER 097986 (5-25-63) - A socket on the vacuum sensor element (Air Serco P/N  
8970) pulled loose from the main sensor body. The  
metal fasteners are not strong enough to hold the  
socket during normal usage.

MAFB - A&CO DATA  
March 28 through June 26, 1963

Figure A 4152 - Test Equipment, Electronic Facility

Primary Failure Events

Location

- CSA UER 038775 (5-3-63) - Pressure Switch (S6) P/N MD-203BAR33 will not actuate with correct air pressure applied. Switch scrapped.
- CSA UER 097915 (5-21-63) - Printed Circuit Card, P/N 25-36375-1, was reported as having no output on pin 15. Failure analysis indicated pulse width on pin 15 at low end of tolerance limit.

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Figure A 4187 - Alarm Set, Missile Storage & Transit

Human Error - Retest Good:

UER 057814 (5-10-63) - Alarm Set, P/N 10-20496-5, showed an out-of-tolerance condition on an acceleration channel upon missile arrival aboard C-133 aircraft. Loadmaster of C-133 stated that shock light came on while missile was in static condition prior to leaving Hill AFB. Alarm Set self-checked o.k.

Primary Failure Events

UER 184512 (4-12-63) - Alarm Set Recorder, P/N 10-20496-11, erroneously  
UER 161677 (3-30-63) records environmental events and does not respond to  
UER 057852 (4-3-63) self check procedure. Replaced recorder. No retest data available.

ECP 341 proposes compatibility testing with Environmental Control Unit (Fig. A 4115) and changes as required to establish confidence in monitoring capability of the Alarm Set.

MAFB - A&CO DATA

March 28 thru June 26, 1963

Figure A 4306 - Plate Set, T-E Hinge

Contamination & Damage

UER 127041 (5-1-63) - Bolt, NAS 1312-111, used in adjusting the plate set, has stripped threads. Replaced bolt.

Figure A 4441 - Protractor Strip Set, Autocollimator Bench Rail

Pre-Installation Rejections

Location

LF M-03	UER 157725 (5-7-63)	} Protractor strip loose.
LF M-02	UER 197817 (5-27-63)	
LF N-03	UER 139569 (6-10-63)	

Figure A 4445 - Control, Missile Erection

Contamination & Damage

UER 127290 (4-12-63) - Stand assembly, T.E. Control Panel, P/N 25-28160-1; hold down latches on side of case broken. Replaced.

MAFB - ALCO DATA

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Figure A 4451 - Controller, Power Azimuth Drive

Primary Failure Events

Location

CSA UER 038657 (5-16-63) - Variac, in controller, P/N 10-20842-3, has an open winding.

THE **BOEING** COMPANY

2-5142-2

NUMBER D2-5286-41

SECTION TITLE ASSEMBLY & CHECKOUT FAILURE DATA,  
ELLSWORTH AIR FORCE BASE, FOR JUNE, 1963

PREPARED BY Reliability Evaluation Group 2-1772-3

SUPERVISED BY R. G. Bush 7/16/63  
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APPROVED BY D. J. Supplee 7/16/63  
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0000 REV. 2/63

REV SYM \_\_\_\_\_

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REV SYM \_\_\_\_\_

**BOEING** NO. D2-5286-41

SECT. D PAGE 2

MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM ELLSWORTH AFB - June 26, 1963													
FIG. A	NOMENCLATURE	NUMBER OF DISCRETE FAILURE EVENTS											
		TO DATE		THIS MO. SINCE 3-28-63		THIS MO. SINCE 3-28-63		THIS MO. SINCE 3-28-63		THIS MO. SINCE 3-28-63		THIS MO. SINCE 3-28-63	
		LF & ICF ONLY		LF & ICF ONLY		LF & ICF ONLY		LF & ICF ONLY		LF & ICF ONLY		LF & ICF ONLY	
		CSA ONLY		CSA ONLY		CSA ONLY		CSA ONLY		CSA ONLY		CSA ONLY	
		No. of P.S. A's (population)		No. of P.S. A's (population)		No. of P.S. A's (population)		No. of P.S. A's (population)		No. of P.S. A's (population)		No. of P.S. A's (population)	
FIG. A	NOMENCLATURE	TO DATE	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63	THIS MO. SINCE 3-28-63
1329	Elect. P/S & Dist. Sys., LF	93	0	86	59/8	-	-	-	-	-	-	-	-
1211	Environ. Cont. Sys., LF	-	40	0	36	20/3	-	-	-	-	-	-	-
2900	Alarm Monitor	59	29	11	29	25/7	-	-	-	-	-	-	-
1283	M-G Set (3-Unit), LF	81	27	0	25	16/2	10/7	10/5	2/2	1/1	0	0	2/1
1280	Actuating & Lock'g Mech, LF	128	32	0	21	11/2	1/1	3/1	7/4	0	0	0	10/5
1251	Digital Data Group, LF	81	21	5	21	9/2	7/5	0	0	0	0	3/0	2/1
1383	Gear Rack Assy, Inch. Clos	81	22	0	20	10/1	1/0	5/2	14/8	0	0	0	0
2905	RF Receiver	81	20	12	20	10/4	-	-	-	-	-	-	-
4059	Semi-Trailer, T-E	-	** 19	19	10/2	7/2	8/5	0	0	0	0	3/2	1/1
1228	Status Com'd Msg. Proc Gp.	81	20	0	19	7/0	4/1	0	0	0	0	2/0	4/3
3092	Test Set, Programmer Grp.	-	** 19	16	1/0	7/0	2/0	0	2/0	1/0	0	0	3/0
1600	Door, Inch. Pers. Access, Prim	-	23	0	15	10/2	3/3	5/2	3/1	0	0	0	4/4
1603	Piping & Cont. Set, Hyd.	-	29	0	15	12/2	3/2	8/7	0	0	0	0	4/3
1606	Wiring & Cont. Set, Elect.	81	25	0	15	10/6	1/1	2/1	0	0	0	0	12/8
2903	RF Transmitter	81	12	1	12	11/4	-	-	-	-	-	-	-
1284	Power Supply Group, LF	81	12	0	11	7/1	1/0	2/0	0	0	0	7/6	0
4075	Tractor, T-E	4	** 11	11	4/1	3/0	2/0	1/1	0	0	0	0	2/1
4018	Adapter Group, Test	-	** 11	11	11/5	3/3	0	0	0	0	0	0	7/7
402	Test Set, Data Anal. Cent	-	** 10	10	7/5	2/0	0	0	1/0	0	0	0	6/6
1213	Com'd Status Msg. Proc.	10	9	0	9	4/0	2/1	0	0	0	0	2/0	1/0
* Number of Discrete Failure Events discerned from data received during this month and ( / ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.													
** No differentiation is made between failures in the CSA vs. the LF & ICF areas.													

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MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM ELLSWORTH AFB - June 26, 1963													
FIG. A NOMENCLATURE	NUMBER OF DISCRETE FAILURE EVENTS				BREAKDOWN-IF/ICF FAILURES SINCE 3-28-63 / THIS MO*				Events Due to				
	TO DATE		FAILURE EVENTS		Events Due to		Events Due to		Events Due to		Events Due to		
	CSA Only	LF & ICF	Test 3 Mos Since 3-28-63	This Mo. This Wk	Pre-Install. Rejections	Contamination & Damage	Hard-ware Failure	Retest Good	A&CO Peculiar	Normal Operat-ing	Secondary Failures	Primary Failure Events	Incompletely Analyzed
No. of Pz. A's (Population)	LF & ICF	CSA Only	Test 3 Mos Since 3-28-63	This Mo. This Wk	Pre-Install. Rejections	Contamination & Damage	Hard-ware Failure	Retest Good	A&CO Peculiar	Normal Operat-ing	Secondary Failures	Primary Failure Events	Incompletely Analyzed
1212 Environ. Cont. Sys., LCF	-	9	0	9	5/2	-	-	-	-	-	-	-	-
1604 Door, Ineh. Pers. Access.	81	11	0	9	2/0	1/0	8/2	0	0	0	0	0	0
1282 Battery Set, Storage, LF	81	8	0	8	5/0	0	4/3	0	1/0	0	0	0	3/2
1214 Cooler, Liquid, G&C	81	8	2	8	5/0	4/1	1/1	0	0	0	0	2/2	1/1
1201 Programmer Group	81	9	11	8	7/3	1/1	2/2	0	1/1	0	0	2/2	2/1
1248 Cable Assy. Set, LF	81	13	0	8	3/1	1/0	2/1	3/2	1/0	0	0	0	1/0
1294 Sensitive Switch	-	8	0	8	6/0	1/1	7/5	0	0	0	0	0	0
4024 Semi-Trailer, R/V - G&C	4	** 9	7	7	7/5	0	3/3	1/1	0	0	0	0	3/3
1611 Ladder, Pers. Access, LF	81	15	0	7	7/1	1/1	3/3	0	0	0	0	2/2	1/1
1412 Signal Assy, Voice Rptg.	81	6	4	6	3/1	0	0	0	0	0	0	4/1	2/0
3007 Test Set, Explos. Set Cir.	-	** 6	6	6	6/5	5/5	0	0	0	0	0	1/1	0
1602 Pumping Unit, Hydraulic	-	8	0	6	5/0	2/2	0	0	0	0	0	4/3	0
1379 Battery Charger Alm. Set	81	7	1	5	1/1	2/0	1/0	0	0	0	0	0	2/1
4175 Jack Set, Translating	-	** 5	5	5	5/2	0	0	0	0	0	0	5/5	0
4441 Protractor Strip Set,	8	5	0	5	1/1	4/1	1/0	0	0	0	0	0	0
2906 Arrestor Set, Elect. Surg	-	6	0	5	3/0	-	-	-	-	-	-	-	-
1607 Security & Alarm Set	81	5	0	5	4/2	1/1	1/0	0	0	0	0	3/3	0
1243 Console, Launch Control	10	4	0	4	0	3/0	1/0	0	0	0	0	0	0
4119 Truck, T-E Support	0	** 4	4	4	1/0	0	2/0	0	0	0	0	2/1	0
4489 Message Generator	-	** 4	4	4	3/2	3/2	0	0	0	0	0	1/1	0

\* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the LF & ICF areas.

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MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM ELLSWORTH AFB - June 26, 1963														
FIG. A NOMENCLATURE	NUMBER OF DISCRETE FAILURE EVENTS				BREAKDOWN-IF/ICF FAILURES SINCE 3-28-3/THIS MO									
	TO DATE		IF & ICF		Events Due to Human Errors Resulting in-	Retest	Good	A&CO	Normal Operating Instruction	Secondary Failure Events	Primary Failure Events	Incomplete Analysis		
	CSA Only	IF & ICF	Last 3 Mos Since 3-28-3	This No. of Failures										
	No. of F.B. A's (Population)	IF & ICF Only	CSA Only	Last 3 Mos Since 3-28-3	This No. of Failures	Pre-Instal. Rejections	Contamination & Damage	Hard-ware Failure	Retest	Good	A&CO	Normal Operating Instruction	Secondary Failure Events	Primary Failure Events
2910 Alarm Monitor	81	4	0	4	3/2	-	-	-	-	-	-	-	-	-
4025 Container, Safe & Arm Fire	-	5	0	4	2/1	1/0	3/2	0	0	0	0	0	0	0
4105 Gearcase Motor	14	12	17	4	3/1	0	0	3/2	0	0	0	0	1/1	0
1318 Plumbing Set, G&C, Grid.	81	4	0	4	1/0	0	1/0	2/1	0	0	0	0	1/0	0
1368 Radio Set Group	9	5	3	4	4/1	1/2	1/0	0	0	0	0	0	2/2	0
1367 M-G Set (4-Unit), LCF	10	7	0	3	2/1	0	0	0	0	0	0	0/1	0	3/1
1302 Tele. Switch & Conn. Set	10	4	1	3	1/0	0	0	0	0	0	0	0	3/1	0
4043 Elevator Work Cage	-	3	1	3	1/0	0	0	2/0	0	0	0	0	1/1	0
1418 Valve, Safety, Ventilation	-	3	0	3	3/0	0	0	0	0	0	0	0	0	3/3
1373 Arrestor Set, Elect. Surg	10	3	0	3	0	1/0	1/0	1/0	0	0	0	0	0	0
1610 Guide Rail Assy., Sec. Door	128	17	0	3	3/1	2/2	1/1	0	0	0	0	0	0	0
1289 Power Supply Grp., LCF	10	2	0	2	0	0	0	0	0	0	0	2/0	0	0
4053 Adapter, Hoist, Stab. Ring	-	** 2	2	2	1/0	2/1	0	0	0	0	0	0	0	0
4187 Alarm Set, Missile Storage	-	** 2	2	2	1/0	0	0	0	0	0	0	0	2/1	0
1303 Repeater, Telephone Set	81	2	0	2	2/0	1/1	0	0	0	0	0	0	0	1/1
1322 Suprt., Msle Susp & Align	128	2	0	2	0	0	2/0	0	0	0	0	0	0	0
1421 Shock Isolator Set	13	2	0	2	2/0	2/2	0	0	0	0	0	0	0	0
1374 Arrestor Set, Elect. Surg	81	4	0	2	1/0	0	2/1	0	0	0	0	0	0	0
1425 Arrestor Assy., Elect. Surg	14	2	0	2	1/1	-	-	-	-	-	-	-	-	-
2950 Portable Fault Locator	-	2	5	2	1/1	-	-	-	-	-	-	-	-	-
* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.														
** No. differentiation is made between failures in the CSA vs. the IF & ICF areas.														

\* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the IF & ICF areas.

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MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM ELLSWORTH AFB - June 26, 1963															
FIG. A	NOMENCLATURE	NUMBER OF DISCRETE FAILURE EVENTS				BREAKDOWN-IF ICF FAILURES SINCE 3-28-3 / THIS MO *									
		No. of E.E.'s (population)	TO DATE		Last 3 Mos	This Mo. 3-28-3	Pre-Install. Rejections	Contamination & Damage	Hard-ware Failure	Retest Good	A&CO Peculiar	Normal Operat-ing to Faulty Instruction	Secondary Failure Events	Primary Failure Events	Incompletely Analyzed
			LF & ICF Only	CSA Only											
1608	Door, Vault, Security Pit	79	5	0	2	0	1/0	1/0	0	0	0	0	0	0	0
1601	Cylinder Assy., Actuating	-	2	0	2	1/0	2/1	0	0	0	0	0	0	0	0
1605	Actuator, Electro-Mech.	78	2	0	2	0	0	1/0	0	0	0	0	0	1/0	0
1288	Battery Set, Storage, LCF	10	3	0	1	1/0	0	1/1	0	0	0	0	0	0	0
1370	Elect. Equip. Grp, Emerg.	10	1	0	1	1/1	0	1/1	0	0	0	0	0	0	0
1265	Digital Data Group, LCF	10	2	1	1	1/0	1/1	0	0	0	0	0	0	0	0
4129	Trailer, Ballistic Missile	-	**	1	1	1/0	0	1/1	0	0	0	0	0	0	0
4188	Jack Set, Leveling	-	**	1	1	1/1	0	0	0	0	0	0	0	1/1	0
4265	Cover Set, Sling Rod Ends	-	**	1	1	1/1	0	0	1/1	0	0	0	0	0	0
4535	Align. Set, Misile Transfer	-	**	1	1	1/0	0	1/1	0	0	0	0	0	0	0
1320	Repeater, Telephone Set	10	1	0	1	1/0	0	1/1	0	0	0	0	0	0	0
1366	Repeater, Telephone Set	10	1	1	1	1/0	1/1	0	0	0	0	0	0	0	0
1326	Door, Blast, LCF	-	1	0	1	1/1	-	-	-	-	-	-	-	-	-
4150	Test-Repair Set, G&C Cool.	-	**	1	1	0	0	0	0	0	0	0	0	1/0	0
1246	Cable Assy. Set, LCF	10	5	0	1	1/0	1/1	0	0	0	0	0	0	0	0
1376	Interconnecting Box	10	1	0	1	1/0	0	1/1	0	0	0	0	0	0	0
1377	Interconnecting Box	81	1	0	1	0	0	1/0	0	0	0	0	0	0	0
1226	Cable, Pressurized, Hard.	-	1	0	1	0	-	-	-	-	-	-	-	-	-
2901	Antenna, RF Transmitting	-	1	0	1	1/0	-	-	-	-	-	-	-	-	-
2902	Long Range Receiver	-	1	0	1	1/0	-	-	-	-	-	-	-	-	-
* Number of Discrete Failure Events discerned from data received during this month and ( / ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.															
** No differentiation is made between failures in the CSA vs. the LF & ICF areas.															

\* Number of Discrete Failure Events Discerned from data received during this month and ( / ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the LF & ICF areas.

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MONTHLY SUMMARY - A&CO FAILURE REPORT DATA FROM ELLSWORTH AFB - June 26, 1963													
FIG. A	NOMENCLATURE	NUMBER OF DISCRETE FAILURE EVENTS				BREAKDOWN-IF/ICF FAILURES SINCE 3-28-3/THIS MO *							
		No. of FIG. A's (Population)	TO DATE		This Mo. *This Wk	Pre-Instal. Rejections	Hard-ware Failure	Retest Good	A&CO Peculiar	Normal Operat-ing	Secondary Failure Events	Primary Failure Events	Incompletely Analyzed
			Only	CSA Only									
2904	Antenna, Short Range Recvr	-	1	0	1	0	-	-	-	-	-	-	-
2908	Plate, Pedestal Mounting	-	1	0	1	0	-	-	-	-	-	-	-
2909	Antenna, RF Transmitting	-	1	0	1	0	-	-	-	-	-	-	-
2911	Motional P/U Transducer	-	1	0	1	1/0	-	-	-	-	-	-	-
1338	Comm. Control Console	10	2	0	1	1/0	0	0	0	0	0	1/1	0
1423	Antenna Group	14	1	0	1	0	1/0	0	0	0	0	0	0
1614	Frame, Vault Door	128	11	0	1	1/1	0	0	0	0	0	0	0
1380	Distribution Boxes, LCF	10	1	0	0	0	0	0	0	0	0	0	0
4490	Simulator Set, Elect. Func	-	2	0	0	0	0	0	0	0	0	0	0
4523	Power Supply	-	0	6	0	0	0	0	0	0	0	0	0
3113	Dummy Decoder - Relay Assy	-	0	1	0	0	0	0	0	0	0	0	0
4152	Test Equip, Elec. Facil.	-	0	1	0	0	0	0	0	0	0	0	0
4487	Simulator, Com'd Signal Decoder	-	0	1	0	0	0	0	0	0	0	0	0
4539	Test Set, VRSA	-	0	1	0	0	0	0	0	0	0	0	0
4277	Sling, Gearcase Motor	-	**	1	0	0	0	0	0	0	0	0	0
4378	Sling, Chiller Unit & Pump	-	**	1	0	0	0	0	0	0	0	0	0
4107	Level Set, Misle Base Spt.	-	0	1	0	0	0	0	0	0	0	0	0
4305	Cylinder/Valve, Comp. Gas	-	0	1	0	0	0	0	0	0	0	0	0
1365	Repeater, Telephone Set	10	0	1	0	0	0	0	0	0	0	0	0
4388	Test Set, Tele. Equip.	-	1	0	0	0	0	0	0	0	0	0	0

\* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the IF & LCF areas.

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DEFINITIONS

Number of Figure A's (Population): This is the number (population) of Figure A's installed on which failures would have occurred during the past three months.

Number of Discrete Failure Events: Four columns are provided to separate the number of individual failure events. Failure events in the LF and LCF are separated in two columns from those events in the CSA for which hardware has not yet been delivered to the launch areas for installation. These entries do not indicate the number of actual hardware failures (see following definitions). Two columns also provide, by identifying this month and last three months, for a more current appraisal of Figure A failure events in the launch areas.

Breakdown - LF and LCF Failure Events - Last 3 Months/Current Month:

Pre-Installation Rejections: Items rejected by Contractor and/or USAF Q.C. inspection personnel when received for installation in the LF or LCF or during installation.

Contamination and Damage: This category indicates a failure or impending failure to a piece of equipment which has been exposed to abnormal environment, i.e., shipping, handling, temperature, smoke or soot, water, etc. The equipment itself has qualified to all requirements of quality in manufacturing and testing prior to this contamination or damage.

Events Due to Human Errors Resulting in Hardware Failure or Retest Good: Equipment failure events or operational discrepancies induced by human action during AECO operations. In all cases, the available AECO or equipment operating instructions were correct at the time of the failure event. This category includes "good" equipment improperly rejected through human or test equipment fault following which the equipment is returned to service (or to spares inventory) without adjustment or repair.

Events Due to Faulty Instructions - AECO Peculiar/Normal Operating: These entries reflect those equipment failures or operational discrepancies induced by the application of a misleading, incomplete, or erroneous written procedure. To ascertain those few events which are significant to operational reliability, the number of events caused by faulty equipment operating instructions are separately noted in the "normal operating" column; corrective action applicable to such events consists of revisions to the instructions and corresponding AFTO's.

Secondary Failure Events: An equipment failure event induced by "chain-reaction" to a primary failure event.

Primary Failure Events: A true reliability-significant failure event involving equipment failure(s) which cannot be traced to any cause other than a design error, manufacturing discrepancy, or a part failure. Such failures may occur only after the equipment has been installed and has functioned properly once.

Incompletely Analyzed: Events for which only advanced and incomplete information ("R" copies of failure reports) is available prior to completion of fault isolation testing in the CSA or failure analysis at Boeing-Seattle. Opportunity exists, therefore, when the cause and mode of failure become known, that these events may be assigned to any of the previously discussed categories.

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Figure A 1201 - Programmer Group

Pre-Installation Rejections

Location

Programmer Launch Sequence (A2) P/N 25-22038-54

LF D-11 UER 046484 (5-18-63) - Rack S/N 0000188. Electrical short between P2-45 and P2-63.

Contamination and Damage

Sequential Timer Drawer (A-1) P/N 25-22037-68

Broken shear-pin on open-close handle of the code safe door.

LF I-3 UER 150585 (5-14-63) - Rack S/N 0000170

LF I-7 UER 061146 (5-17-63) - Rack S/N 0000176

Human Error - Retest Good

Sequential Timer Drawer (A-1) P/N 25-22037-68

LF I-8 UER 002747 (5-24-63) - Rack S/N 0000187

Primary Failure Events

Sequential Timer Drawer (A-1) P/N 25-22037-68

LF I-7 UER 036129 (5-29-63) - Rack S/N 0000176, wire bundle was pierced by a mechanical decoder guide pin when the decoder was inserted into the decoder cavity.

Calibrator-Test Programmer Drawer (A-3) P/N 25-22039-59

LF B-6 UER 110702 (4-13-63) - Rack unknown. Drawer does not perform the 60 second test completely. Defective A-1 Module P/N 25-22731-1. No retest data.

Figure A 1201 (Cont'd)

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Incompletely Analyzed

Calibrator - Test Programmer Drawer (A-3) P/N 25-22039-59

Location

LF B-9 UER 134709 (4-28-63) - Rack S/N 0000168 - Drawer does not perform the 60-second test completely.

Voltage Regulator Assembly (A-6) P/N 25-22042-51

LF D-3 UER 065387 (6-12-63) - Rack S/N 0000189 - Output of +10 volt regulator is 2.2 volts.

The following are failures at ET&M area:

Pre-Installation Rejection

UER 117431 (4-2-63) - Rack S/N 0000170. Connectors J8 & J9 - RF shields broken.

Calibrator - Test Programmer Drawer (A-3) P/N 25-22039-59

UER 117255 (4-5-63) - Rack S/N 0000175. Module P/N 25-22745-5. "No-Go" indication occurred when performing end-to-end test.  
UER 092518 No retest data.

Launcher - Missile Status Monitor Drawer (A-4) P/N 25-22040-63

UER 117437 (4-2-63) - Rack S/N 0000170. Module P/N 25-22717-1 caused "No-Go" during CSA acceptance test.

Contamination & Damage

Sequential Timer Drawer (A-1) P/N 25-22037-68

UER 117438 (4-1-63) - Rack S/N 0000170. Broken shear pin on open-close handle of the code safe door.

Calibrator - Test Programmer Drawer (A-3) P/N 25-22039-59

UER 092450 (4-29-63) - Rack S/N 0000210. Lock wing of handle P/N BAC L10AB1 was broken.

Figure A 1201 (Cont'd)

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Incompletely Analyzed

Programmer Launch Sequence (A-2) P/N 25-22038-54

"No-Go" indication occurred during end-to-end test.

UER 117311 (4-5-63) - Rack S/N 0000175

UER 092265 (4-4-63) - Rack S/N 0000182

Calibrator - Test Programmer Drawer (A-3) P/N 25-22039-59

UER 092556 (5-10-63) - Rack S/N 0000238. "No-Go" indication during test with programmer group test set.

UER 124898 (5-16-63) - Rack S/N 0000243. "No-Go" indication occurred during end-to-end test.

Voltage Regulator Assembly (A-6) P/N 25-22042-51

"No-Go" indication occurred during test of clock supply

UER 117446 (4-9-63) - Rack S/N 0000197

UER 092203 (4-22-63) - Rack S/N 0000174



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Figure A 1213 - Command-Status Message Processing Group

Pre-Installation Rejections

Location

LCF B-01 UER 031523 (4-2-63) - Transition duct on rack was cracked.  
LCF I-01 UER 150482 (5-17-63) - Drawer P/N 8324134-503 failed ACO 4012 tests.

Secondary Failure Events

Location

LCF B-01 UER 119527 (4-1-63) - Drawer P/N 8318766-503 - Drawers of both racks failed during SCNT. Figure A 1211 was primary.  
UER 119528 - Drawer P/N 8318766-503  
LCF B-01 UER 111056 (5-5-63) - Drawer P/N 8318766-503 of Figure A 1213A burnt out due to loss of cooling air from Figure A 1211.  
UER 124934 Module A4 P/N 8618770-501 was replaced. Returned to RCA.  
UER 111046 Replacement drawer would not pass tests. No further information.  
UER 111058 Drawer P/N 8318766-503 of Figure A 1213B burned out due to loss of cooling air Figure A 1211.  
UER 124974 Module A4 P/N 8618770-501 removed and returned to RCA.  
UER 111047 Replacement drawer would not pass tests. No further information.

Primary Failure Events

Location

LCF B-01 UER 110920 (4-27-63) - Drawer P/N 8318766-503 - The main C/B will not stay in. Drawer removed. Improper turn-on sequence may have caused this failure.  
UER 124904 - Module A4 P/N 8618770-501 returned to RCA.  
UER 124905 - Plug J2 has pin broken off in socket "A". This is the probable cause of the failure.

Figure A 1213 (Cont'd)  
Page 2 of 2

Incompletely Analyzed

Location

LCF B-01	UER 151667 (4-15-63)	- Drawer P/N 8324134-503. No response was observed while trying to initiate a launch command.
LCF I-01	UER 003009 (5-20-63)	- Drawer P/N 8318766-503. Circuit breaker will not remain in the closed position. Drawer removed and replaced.
LCF I-01	UER 035881 (5-27-63)	- Drawer P/N 8324134-503. An invalid output was received from this drawer.
LCF B-01	UER 065144 (6-7-63)	- Drawer P/N 8318766-503 does not operate.
	UER 065145	- Drawer P/N 8318766-503 does not operate.

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Figure A 1214 - Cooler, Liquid, Guidance Section

Pre-Installation Rejections

Location

LF B-5	UER 034351 (4-2-63)	- The Amplifier (P/N 10-20677-4) will not pass gross temperature functional test. Unit returned to vendor.
LF B-6	UER 110671 (4-12-63)	The input from the Amplifier (P/N 10-20677-4) to the Pumping System control valve is incorrect. Units returned to vendor.
LF B-6	UER 110708 (4-13-63)	
Unknown	UER 125086 (5-23-63)	- The Amplifier (P/N 10-20677-4) Bridge Network Dead Band is out of tolerance. Unit returned to vendor.

Contamination & Damage

Location

LF D-8	UER 003241 (5-17-63)	- The right hand handle is pulled loose on the Pumping Assembly Drawer (P/N 10-20677-3).
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Primary Failure Events

Location

LF B-9	UER 060058 (5-26-63)	- The Chillers (Hokanson P/N 516100-501) S/N's 0000145 and 0000346, were removed because of high suction pressure. This is an indication that the compressor intake reed valve is broken
LF B-9	UER 188771 (6-4-63)	

Incompletely Analyzed

Location

LF B-11	UER 040382 (6-9-63)	- AC Motor in Pumping Assembly (P/N 10-20677-3) is inoperative. The AC power was available to the site, but the DC power had "kicked on" and the DC pump was operating.
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Figure A 1214 (cont'd)  
Page 2 of 2

The following rejections, pertinent to hardware performance, occurred during functional test of the Amplifier (P/N 10-20677-4) upon completion of a scheduled hardware change (KECP 500) at the CSA:

UER 124821 (5-14-63) The amplifier relay chatters. Because relay is in a  
) hermetically sealed container, the amplifiers will be  
UER 124822 (5-16-63) returned to the vendor for repair.

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Figure A 1228 - Status Command - Message Processing Group

Pre-Installation Rejection

Location

LF B-09 UER 043836 (4-4-63) - Rack P/N 8323617 has cracked transition duct.  
LF B-10 UER 126953 (5-4-63) - Drawer P/N 8323605-502 gives erroneous "No-Go" on test L3-B. Replaced drawer.  
LF B-02 UER 119495 (5-6-63) - Noise in LF - LCF retransmission test.  
Removed rack P/N 8323617-504.  
UER 119498 (5-7-63) - Drawer P/N 8323611 had shorted jumper wire in LF address plug, RCA P/N 8622969-501. This failure was due to a discrepancy in manufacture.  
LF I-06 UER 002909 (5-23-63) Drawer P/N 8323611-502 failed test with ACO 4012. Drawer P/N 8323605-502 failed test with ACO 4012.  
UER 002908 (5-23-63)

Secondary Failure Events

Location

LF B-05 UER 134331 (4-17-63) - Drawer P/N 8318766-503 - The main circuit breaker on drawer will not stay on. Figure A 1211 Primary.  
UER 092437 Module A4, P/N 8618770-501, removed.  
LF B-08 UER 003265 (5-10-63) - Drawer P/N 8318766-503 failed resistance test on connector J2 A to B. Figure A 1211 Pri.  
UER 124981 Module P/N 8618770-501 shorted.

Primary Failure Events

Location

LF B-03 UER 003210 (5-6-63) - SCMPG gives false fault indication to VRSA.  
UER 003211 (5-6-63) - Drawer P/N 8325136-502 replaced. No further information.  
LF I-03 UER 035988 (5-25-63) - Drawer P/N 8323611-502 failed ACO 4012 test.  
UER 083269 (6-10-63) A30 Module P/N 8619235-501 replaced.  
No further information.  
LF I-09 UER 003019 (5-21-63) - Drawer P/N 8323611-502 failed test L-7A of ACO 4012 due to noise. Incorporation of KECP 601-1 will correct.

Primary Failure Events (Cont'd)

Location

LF I-07 UER 035850 (5-22-63) - Drawer P/N 8323613-501 failed LF-LCF retransmission test. Replaced drawer. No further information.

Incompletely Analyzed

Location

LF B-10 UER 046343 (4-29-63) - Drawer P/N 8323611-502. Gives a "No-Go" indication. Cable W525 replaced.  
UER 034192 (5-2-63) - Removed entire Fig. A 1228 rack P/N 8323617-504.

LF B-07 UER 043766 (4-3-63) - Drawer P/N 8323613-501 - Fault was indicated during test.

LF B-11 UER 126767 (5-3-63) - Drawer P/N 8323613-501 - Failed test L2-4.

LF B-11 UER 126727 (5-9-63) - Drawer P/N 8323611-502 - Failed test. Replaced drawer.

LF B-10 UER 177777 (4-23-63) - Drawer P/N 8323611-502 - Fault occurred during test.

LF B-02 UER 141487 (4-29-63) - Drawer P/N 8318766-503 failed.  
UER 043723 - Drawer P/N 8323611-502.  
UER 043871 - Drawer P/N 8325136-502.

The drawers listed on UER's 043723 & 043871 above are claimed to short-out the Power Supply drawer (8318766-503) when they are turned on. No retest information is available.

LF I-04 UER 163319 (5-24-63) - Drawer P/N 8323613-502 failed LF-LCF retransmission test. No further information.

LF I-04 UER 003080 (5-28-63) - Drawer P/N 8323611-502 gives premature reset of ten-second timer during SCNT. Drawer removed. No retest information available.

LF D-09 UER 046226 (5-26-63) - Drawer P/N 8323605-502 removed because of failure of pass ACO 4012 test. Replacement did not cure discrepancy, so drawer reinstalled.

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Figure A 1243 - Launch Control Console

Pre-Installation Rejections

Location

- LCF B-01 UER 119273 (3-29-63) - Program Control Panel, P/N 25-24177-10. While depressing the Program & Launcher Controls, an intermittent "No-Go" was indicated.
- LCF B-01 UER 151849 (4-4-63) - Launch Control Panel, P/N 25-24177-10. Panel has a faulty set of switches. The switches remain closed at any manual setting of dial.
- LCF D-01 UER 119372 (4-9-63) - Console, P/N 25-24172. Cable to Console clocked wrong. The fix was to rotate the socket in the Console.

Contamination & Damage

Location

- LCF B-01 UER 119518 (4-1-63) - Console, P/N 25-24172. With the Program Function Selector switch in the "hold" position, the "Go" indicator is supposed to light. However, the "No-Go" indicator came on. Replaced Pins 58 and 59 of P1.

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Figure A 1246 - Cable Assembly Set, LCF

Pre-Installation Rejections

Location

LCF I-01 UER 035583 (5-28-63) - Ground Cable (P/N 29-22310-90) resistance out of tolerance.



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Figure A 1248 - Cable Assembly Set, LF

The following data reflects a complete review and reclassification as necessary of all failure data presented in the May 1, 1963, report to include only reliability significant events. Events concerning only manufacturing and quality control discrepancies unrelated to hardware performance or reliability which are observed during initial installation have been deleted.

Pre-Installation Rejections

Location

LF B-05 UER 034508 (4-12-63) - Functional test indicates low insulation resistance in Cable (P/N 25-37564-3).  
Replaced cable.

Contamination & Damage

Location

LF B-08 UER 003267 (5-10-63) - Shear Pins (P/N P201609SP) broken on skirt umbilical.  
LF B-10 UER 192187 (5-16-63) - Electrical connector for squib and jumper assembly damaged. Replaced Cable Assembly (P/N 10-20954-11).

Human Errors - Hardware Failure:

Location

LF B-08 UER 031859 (4-2-63) - Cable terminals burned due to incorrect battery hook-up. Cable replaced (P/N 21-52915-2057).  
LF I-04 UER 036099 (6-6-63) - Damaged connector pins on cable assembly (P/N 21-52915-2020) caused by incorrect M-G Set startup procedure. Replaced cable.  
LF B-08 UER 146677 (5-12-63) - Lug loose on Cable (P/N 21-52915-2016) stud causing arc when power was turned on.

Figure A 1248 (contd)  
Page 2 of 2

Human Errors - Retest Good:

Location

LF B-10 UER 046342 (5-2-63) - Cable (P/N 21-51001-1025) suspected to be faulty during check-out of Status Command Message Processing Group (Figure A 1228). Retested good and re-installed.

Incompletely Analyzed

Location

LF B-10 UER 110974 (4-26-63) - "No-Go" received during check-out of Status Command Message Processing Group with this cable (P/N 21-51001-1025) installed. Cable replaced and test completed satisfactorily.

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Figure A 1251 - Digital Data Group

Pre-Installation Rejection

Location

LF I-07 UER 092243 (4-15-63) - Drawer P/N 8323661-502 is beyond the required tolerances of  $-7 \pm 1$  DBM. restrap drawer.

LF I-09 UER 150541 (5-16-63) - Drawer P/N 8323600-505 failed tests L-7A, L-7B per ACO 4012. Replaced drawer. KECP 601-1 to be incorporated.

LF I-06 UER 131395 (5-17-63) - Drawer P/N 8323608-504 failed test per ACO 4012. Replaced drawer. Drawer retest good using other test means.

UER 035842 - Drawer P/N 8323611-502 failed test 7-A, 7-B, 7-C, per ACO 4012. Retest good. KECP 601-1 to be incorporated.

LF I-06 UER 002910 (5-23-63) - Drawer P/N 8323608-504 failed ACO 4012 test L-5A, L-5B, L-5D. Replaced drawer.

UER 003051 (5-24-63) - Test of DDG P/N 8323616-509 failed test.

UER 002702 (5-29-63) - Board L-8A on ACO 4012. Found J3 pin 6 to J15 of back plane pin 57 open. Replaced DDG rack.

LF D-02 UER 040527 (5-25-63) - Drawer P/N 8323608-504 has too high noise level. Replaced drawer.

LF D-04 UER 065239 (6-11-63) - Drawer P/N 8323608-505 failed test L-7D and L-7E on ACO 4012. Replaced drawer. No retest data.

LF B-04 UER 060280 (5-11-63) - Drawer P/N 8323608-504 failed end-to-end test. Site tailoring plug keying discrepancy.

UER 125100 (5-21-63) - Plug clocked 180° out of phase. Factory fabrication error

Primary Failure Events

Location

LF B-05 UER 192073 (5-13-63) - Drawer P/N 8318766-503. The Input Power Circuit Breaker will not reset properly. Circuit Breaker was defective.

Primary Failure Events (Cont'd)

Location

LF B-10 UER 046467 (5-1-63) - Drawer P/N 8323600-505 failed test L7-C on ACO 4012. Replaced drawer.  
UER 092486 (5-7-63) - A20 Module P/N 8618968-501. Replaced.

Secondary Failure Events

Location

LF B-05 UER 134389 (4-17-63) - Drawer P/N 8318766-503. Main circuit breaker on drawer will not stay on. Figure A 1211 primary.  
LF B-02 UER 043795 (4-30-63) - Drawer P/N 8323661-502. Component damage due to overheating. Replaced drawer.  
UER 043796 (4-30-63) - Drawer P/N 8323591-501. Failed same as above.  
LF B-08 UER 003266 (5-10-63) - Drawer P/N 8318766-503 failed resistance test from pin A to B on test connector J-2. Removed drawer.  
UER 124980 (5-17-63) - A4 Module P/N 8618770-501 shorted. (Power supply drawers in Figure A 1228 and Figure A 1284 were also failed as a part of this event, due to Primary Failure of Figure A 1211.

Incompletely Analyzed

Location

LF B-07 UER 031876 (4-4-63) - Drawer P/N 8323619-503. A "No-Go" was received during test. No retest information.  
LF D-02 UER 177727 (5-16-63) - Drawer P/N 8323619-503. A "No-Go" was received during test. No retest information.  
LF B-11 UER 126598 (5-2-63) - Drawer P/N 8323600-505. Gives fault light. Replaced drawer.  
LF B-10 UER 043564 (4-27-63) - Drawer P/N 8323608-504. Gives a "No-Go" indication.  
UER 046467 (5-1-63) - Drawer P/N 8323600-505. Gives a "No-Go" during test. Drawer replaced.  
LF I-09 UER 092197 (4-24-63) - Drawer P/N 8323661-502. Fails to meet line amplifier tolerances.

Figure A 1251 (Cont'd)  
Page 3 of 3

Incompletely Analyzed (Cont'd)

Location

LF B-04	UER 046223 (5-8-63) - Drawer P/N 8323591-501 failed LF-LF command line equalization test. Replaced drawer.
LF D-02	UER 110668 (5-19-63) - Drawer P/N 8323619-503 cannot set fire code shift control. Replaced drawer.
LF I-03	UER 036000 (5-27-63) - Drawer P/N 8323600-505 failed ACO 4012 test. (See UER 035988, Figure A 1228, for coincident trouble in 8323611-502)
LF B-09	UER 040257 (5-28-63) - Drawer P/N 8323608-504 will not process SCNT on line #1. Drawer not to current configuration. Replaced drawer.

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Figure A 1265 - Digital Data Group, LCF

Pre-Installation Rejections

Location

LCF L-01 UER 092484 (5-2-63) - Drawer, P/N 8323612-501. Voltage could not be stabilized. Module A-11, P/N 8741630-502, removed and replaced.  
UER 125102 - Potentiometer R6, P/N 8983032-1, was removed and replaced. Drawer retested good.

BAFB - A&CO DATA  
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Figure A 1280 - Actuating & Locking Mechanism, Launcher Closure

Pre-Installation Rejections

Location

LF B-11 UER 192306 (5-26-63) - Excessive resistance of Cartridge  
(P/N 10-20969-15) Squib Circuit.

Contamination & Damage

Location

LF L-09 UER 174305 (5-8-63) - Cable Lugs (29-27297) bent.

LF L-05 UER 172386 (5-8-63) - Switch Housing (29-18533-1) broken.

LF B-07 UER 034189 (4-8-63) - Moving Sheave Cable Guard (P/N 29-18634-1)  
bent.

Human Errors - Hardware Failure:

Location

LF B-05 UER 134282 (4-10-63) - 29-18532-1 Bracket broken.

LF D-05 UER 031809 (4-30-63)

LF B-06 UER 134686 (5-7-63)

LF B-09 UER 059965 (5-17-63)

LF B-11 UER 192114 (5-28-63)

LF K-07 UER 059705 (6-1-63)

LF D-09 UER 065116 (6-12-63)

Rocker Arms (P/N 25-23722) broken due to  
personnel not following correct procedures  
during lid closing.

Primary Failure Events

Location

LF I-06 UER 171586 (4-1-63)

LF I-07 UER 171451 (4-17-63)

LF B-08 UER 119602 (5-8-63)

Lock Retainer Screws (P/N BAC 312BP-6N28)  
sheared during lid closing.

Figure A 1280 (cont'd)  
Page 2 of 2

Primary Failure Events (cont'd)

Location

LF B-07	UER 191920 (5-8-63)	} Lock Retainer Screws (P/N BAC S12BP-6W28) sheared during lid closing.
LF B-05	UER 192075 (5-13-63)	
LF C-06	UER 003327 (5-18-63)	
LF E-11	UER 110865 (5-7-63)	
LF A-02	UER 065212 (6-8-63)	
LF L-06	UER 172486 (5-18-63)	- Arrestor Lugs broken due to Cable pin rode over lugs during lid opening.
LF B-11	UER 073108 (5-28-63)	- Lock pins broken.



EAFB - A&CO DATA

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Figure A 1282 - Storage Battery Set, Launch Facility

Contamination & Damage

Location

LF B-08      UER 034427 (4-5-63) - Negative terminal studs stripped.  
LF B-06      UER 119609 (4-3-63) - Stud overtorqued and broken.  
LF D-07      UER 031696 (5-18-63) - Ground stud broken.

This is a recurrence of a problem encountered during the early A&CO operations at Malmstrom AFB. The studs are broken when the nuts are not torqued to requirements.

Human Error - Retest Good

Location

LF B-07      UER 191988 (5-17-63) - Battery showed evidence of overheating by bubbling at top covering at end of case. Battery tested good.

Incompletely Analyzed

Location

LF B-08      UER 034432 (4-12-63) - Low cell voltage.  
LF D-10      UER 192018 (5-18-63) - Low cell voltage.  
LF D-03      UER 073012 (5-21-63) - Low cell voltage.

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Figure A 1283 - Motor Generator Set, Launch Facility

Pre-Installation Rejections

Locations

LF B-02 UER 034229 (4-6-63) - Oversize holes in support plate.  
LF I-02 UER 002782 (5-23-63) - M-G Set could not be operated because of missing DC brush screen.

Incorrect phase rotation was the reason for the following rejections:

LF B-07 UER 034107 (4-1-63)  
LF B-08 UER 141448 (4-11-63)  
LF I-03 UER 002959 (5-22-63)  
LF D-09 UER 046283 (5-23-63)  
LF D-06 UER 188646 (5-28-63)  
LF I-10 UER 002953 (5-24-63)  
LF I-11 UER 002973 (5-22-63)  
LF I-05 UER 063409 (6-3-63)

Incorrect phase rotation is the result of wiring errors at the vendor's plant. Corrective action has been taken effective S/N 227 and on.

Contamination & Damage

Location

LF B-08 UER 034428 (4-9-63) - Damaged screen shorted out brushes.

The following events involve damaged screens:

LF B-10 UER 110726 (4-16-63)  
LF B-02 UER 043873 (4-27-63)  
LF B-11 UER 126729 (5-4-63)  
LF I-07 UER 163211 (5-10-63)  
LF D-11 UER 134553 (5-13-63)  
LF B-04 UER 188611 (5-22-63)  
LF B-09 UER 188829 (5-3-63)  
LF L-09 UER 059782 (5-28-63)  
LF D-07 UER 134626 (5-25-63)

Quality Control has issued trouble report (2-4842-TR-22) to highlight the damage inflicted on these screens during A&CO activities. This problem has been highly repetitive at Malmstrom and as a result the Human Factors Group is studying the problem to see whether a protective cover could be used to protect the screens during A&CO operations.

Human Error - Hardware Failure:

Location

The following events are on burned DC connector pins caused by not following the start-up procedure:

LF I-05 UER 003129 (5-18-63)  
UER 035979

LF I-04 UER 061035 (6-7-63)

Human Error - Retest Good:

Location

LF I-05 UER 081960 (6-1-63) - Positive ground on Motor Generator Set.  
Motor Generator retested to document tolerances.

Incompletely Analyzed

Location

LF D-03 UER 151875 (5-16-63) - Motor Generator would not come up to speed  
when circuit breaker closed.

LF B-09 UER 046448 (5-9-63) - Motor Generator inoperative due to burning.  
Retest shows that all test values were within specification except the frequency.

RAFB - A&CO DATA

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Figure A 1284 - Launch Facility Power Supply Group

Pre-Installation Rejections

Location

LF B-04 UER 046217 (5-7-63) - Rack S/N 0000169. Wiring error in rack.  
UER 046220

Contamination & Damage

Location

LF B-05 UER 134393 (4-18-63) - Rack S/N 0000164. Circuit Breaker reset button broken loose from circuit breaker.

LF B-11 UER 046476 (5-2-63) - Rack S/N unknown. Broken tab on locking mechanism of drawer handle (P/N BAC L10AB1).

Secondary Failure Events

Location

LF B-08 UER 003264 (5-9-63) - Rack S/N unknown.  
A-3 Drawer S/N 0000243 - no retest data - reclassified from "Primary".

The above failure was induced by the loss of cooling air from the Environmental Control System, Figure A 1211.

LF B-09 UER 059982 (5-20-63) - Rack S/N 0000199, A-1 Drawer S/N 0000458.  
UER 059984 - A-1 Drawer S/N 0000216.

The above failure was induced by a failure in the G & C Section, Figure A 6201.

The following failures, all on the A-1 Drawer, were in all probability caused by the triggering of ACO 523 by a voltage spike:

LF B-07 UER 046455 (5-17-63) - Rack S/N 0000160.  
LF B-10 UER 192203 (5-19-63) - Rack S/N 0000167.  
LF B-06 UER 188788 (5-31-63) - Rack S/N unknown.  
LF B-11 UER 192309 (5-28-63) - Rack S/N 0000203.  
LF D-03 UER 073041 (6-13-63) - Rack S/N unknown.

Figure A 1284 (contd)  
Page 2 of 2

Incompletely Analyzed

Location

LF D-06 UER 188648 (5-29-63) - Rack S/N unknown.  
A-1 Drawer S/N 0000431 - no output voltage.  
UER 186650 - A-4 Drawer S/N 0000133 - no output voltage.

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Figure A 1288 - Storage Battery Set, Launch Control Facility

Contamination & Damage

Location

LCF B-01      UER 119515 (3-29-63) - Negative terminal stripped.

RAFB - A&CO DATA  
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Figure A 1289 - Power Supply Group, LCF

Secondary Failure Events

The following events were caused by the lack of cooling air from the Environmental Control System, Figure A 1212:

Location

LCF B-01 UER 171337 (3-30-63) - Rack S/N unknown. A-1 Drawer, P/N 25-22623-33,  
S/N 0000030.

LCF B-01 UER 111057 (5-5-63) - Rack S/N unknown. Drawer P/N 25-22623-33,  
S/N 0000033.

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Figure A 1294 - Sensitive Switch

Pre-Installation Rejections

Location

LF B-07 UER 034444 (4-17-63) - Switch leads are reversed at terminals 4 & 5.

Contamination & Damage

Location

LF D-05 UER 031806 (4-11-63) - Screws pulled loose and switch plunger would not depress.

LF J-09 UER 060982 (4-24-63) - Switch broken and cracked around mounting screws.

LF K-08 UER 035071 (5-15-63) - Switch housing broken during installation.

LF C-09 UER 031916 (5-10-63) - Switch damaged during installation.

LF L-10 UER 175586 (5-4-63) - Switch mounting plate broken.

LF B-09 UER 031564 (5-16-63) - Switch inoperative due to water damage.

LF D-06 UER 188642 (5-24-63) - Switch inoperative and full of water.



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Figure A 1302 - Telephone Connecting and Switching Set, AN/GTC-8

Primary Failure Events

Location

LCF B-1	UER 151838 (4-7-63) - Power Supply, P/N 1273059-501, S/N 0000027, failure occurred during SIN Line Equalization Test. No further information.
LCF B-1	UER 192151 (5-12-63) - Drawer P/N 1274162-501, S/N 0000052, defective - possible bad attenuator or filter network. No further information.
LCF B-1	UER 003545 (5-27-63) - When Figure A 1302 is used to call the LCF Security Room, the wall phone will not ring. Suspect defective drawer, P/N 1274156-501.
	UER 083115 - Installation of a new drawer did not solve problem. Problem was resolved by correcting wiring errors within the Fig. A 1302 rack.

Figure A 1303 - Repeater, Telephone Set, AN/GTC-9

Pre-Installation Rejection

Location

LF I-9	UER 150533 (5-18-63) - Short reported between the shield and +24 VDC at pin 6 and 7 of plug J7. Suspect trouble in J7 or J8, or in external wiring. Drawer, P/N 1274175-501, checks good.
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Incompletely Analyzed

Location

LF B-2	UER 060307 (5-23-63) - During LF delivery shakedown, the SIN telephone rings constantly. Replacement of drawer, P/N 1274175-501 did not cure problem.
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### Contamination & Damage

LF B-5            UER 151702 (5-8-63) - Insulation on G&C cooling hose has split.

LF B-4	UER 046221 (5-7-63)	Solenoid valve (P/N 10-20967) will not close when energized due to interference with a fitting. The fitting was installed so that it bottomed in valve and prevented it from operating properly. ECP (B&MD 183) proposes a change to this fitting which will prevent improper installation in valve.
LF D-10	UER 060189 (5-16-63)	

LF B-4 UER 188641 (5-16-63) - Quick disconnect on end of hose  
(P/N 29-19250-3) is leaking.

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Figure A 1320 - Repeater, Telephone Set, AN/GTC-10

Contamination & Damage

Location

LCF E-1      UER 146491 (5-24-63) - During implacement of Figure A 1320, the inside tips were broken off of drawer handle locks. Drawer, P/N 8324412-502.

Figure A 1322 - Support, Missile Suspension & Alignment

Contamination & Damage

Location

LF D-6      UER 119597 (4-20-63) - The Missile Receiver Ring (P/N 25-28544-2) has a rusty machined surface. No protective grease had been applied.

LF E-3      UER 134478 (4-30-63) - Broken bolt on Adapter Ring Lock Assembly (P/N 25-18164-7)

Figure A 1338 - Communication Control Console

Primary Failure Event

Location

LCF D-01      UER 043764 (5-11-63) - Telephone Transmitter Control C-3937/GTC is inoperative. Removed and replaced.

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Figure A 1366 - Repeater, Telephone Set

Pre-Installation Rejection

Location

LCF I-1      UER 002980 (5-13-63) - During functional test the "PAS" switch in drawer P/N 8324438-502, operated intermittantly.

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Correction:

In the May 29<sup>th</sup> report, UER 092409, dated 4-3-63 was erroneously listed as a failure event under the classification of Pre-Installation Rejection. This event was not a failure of the equipment and should be deleted.

Figure A 1367 - Motor Generator, LCF

Secondary Failure Events

Location

LCF B-01      UER 119311 (3-27-63) - 60 volt output jack burned as a result of miswired cable in Figure A 1246.

Incompletely Analyzed

Location

LCF B-01      UER 111039 (5-3-63) - During normal operation, the M-G set burned out.

LCF I-01      UER 035811 (5-11-63) - D.C. power switch on control box of M/G set will not engage.

LCF D-01      UER 040468 (6-9-63) - Smoke was emitted from the motor generator during normal operation.

EAFB - A&CO DATA

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Figure A 1368 - Radio Set Group

Pre-Installation Rejections

Location

LCF I-01      UER 035878 (5-27-63) - Top Hat Assembly P/N 25-27507-6  
inoperative due to reversed connections  
on two wires. Miswiring was corrected.

Contamination & Damage

Location

LCF D-01      UER 119354 (4-17-63) - One screw for holding cover of radio  
set group P/N 25-27506-30 is broken off.

Primary Failure Events

Location

LCF B-01      UER 192183 (5-15-63) - Radio Set Group had no HF output due to  
failure of Power Supply Module,  
P/N 666218-820, S/N-62. No further  
information.

NOTE: This event has been reclassified to Primary Failure on \*.

LCF B-01      UER 040263 (6-16-63) - UHF receiver/transmitter RT-441A/TRC-68  
inoperative; no plate current nor grid  
current indication. No further information

- \* The assumption the equipment had operated satisfactorily in the LCF prior to this failure event. This Figure A was installed in the LCF during March. If subsequent information points to a human-induced failure, this event will be reclassified accordingly.

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Figure A 1370 - Survival & Emergency Lighting Equipment

Contamination & Damage

Location

LCF I-01 UER 035884 (5-28-63) - Overhead light, P/N 25-32902-1, has threads stripped out of casting.

Figure A 1373 - Arrestor Set, Electrical Surge, LCF

Pre-Installation Rejections

Location

LCF J-01 UER 163374 (4-19-63) - Surge Arrestor (P/N 29-21561-1) shorted to ground. Low resistance rejections are being controlled by requiring 100% electrical testing in Seattle before shipment.

Contamination & Damage

Location

LCF J-01 UER 163221 (4-15-63) - Helicoil stripped out and ground lug broken off surge arrestor (P/N 29-21561-1)

Human Errors - Hardware Failure

Location

LCF B-01 UER 046396 (5-9-63) - Studs broken from overtightening.

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Figure A 1374 - Arrestor Set, Electrical Surge, LF

Contamination & Damage

Location

LF B-08 UER 141297 (4-2-63) - Nut on surge arrestor (P/N 29-21561-1)  
frozen - broke when ground strap was  
attached.

LF I-05 UER 163294 (4-28-63) - Surge Arrestor (P/N 29-27484-1) connector  
burned during welding operations.

Figure A 1376 - Interconnecting Box

Contamination & Damage

Location

LCF B-01 UER 046404 (5-14-63) - Interconnecting Box, (P/N 25-37075-3)  
terminal stud broken.

Figure A 1377 - Interconnecting Box

Contamination & Damage

Location

LF B-05 UER 034502 (4-9-63) - Interconnecting Box (P/N 25-36396-2)  
terminal board broken.

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Figure A 1379 - Battery Charger Alarm Set

Pre-Installation Rejections

Location

LF B-06 UER 119259 (3-23-63) - BAC D400F-5 - Air duct seam uncrimped.  
LF B-07 UER 034105 (3-30-63) - Shipped from CSA without environmental control. Unit requires rechecking.

Contamination & Damage

Location

LF B-08 UER 034424 (4-4-63) - Mounting bolts broken.

Incompletely Analyzed

Location

LF B-07 UER 034113 (3-29-63) - When circuit breaker was closed battery charger drawer chattered and emitted smoke.  
LF B-04 UER 169583 (6-8-63) - During single thread test of Sylvania Security System, battery charger alarm set group rack was removed as part of the fault isolation procedure. No retest data on the rack is available.  
UER 145167  
UER 169612  
UER 169613



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Figure A 1383 - Gear Rack Assembly, Launcher Closure

Pre-Installation Rejections

Location

LF E-07 UER 034407 (4-3-63) - Track (P/N 3011Z1) damaged upon receipt.

Contamination & Damage

Location

LF B-11	UER 119254 (4-8-63)	} Track (P/N 3011Z1) rusted.
LF D-10	UER 034264 (4-24-63)	
LF E-06	UER 119288 (5-20-63)	- Stop dog bent.
LF L-06	UER 172501 (5-15-63)	- Stop dog bent.
LF L-09	UER 132734 (5-15-63)	- Detail sprung and bent.

Events Due to Human Errors Resulting In  
Hardware Failure

Location

LF I-08	UER 171442 (4-16-63)	} Gear Rack (P/N 3011Z2-2) teeth broken apparently due to mishandling of gearcase motor during operation and/or installation.
LF B-06	UER 134377 (5-3-63)	
LF B-05	UER 192105 (5-17-63)	
LF D-05	UER 046297 (5-8-63)	
LF B-03	UER 003231 (5-17-63)	
LF A-07	UER 003220 (5-18-63)	
LF D-11	UER 060087 (5-15-63)	
LF D-06	UER 151742 (4-29-63)	
LF E-07	UER 034184 (5-2-63)	
LF E-04	UER 060180 (6-3-63)	
LF B-04	UER 145168 (6-8-63)	
LF D-05	UER 031807 (4-25-63)	
LF E-11	UER 145156 (5-4-63)	
LF C-08	UER 126754 (5-7-63)	
		} Track (P/N 3011Z1) damaged.

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Figure A 1412 - Voice Reporting Signal Assembly

Primary Failure Events

Location

LF B-09 UER 111009 (4-29-63) - Sticks on channel.  
LF I-07 UER 061147 (5-17-63) - VRSA will not play when interrogated.  
LF B-09 UER 065267 (6-6-63) - VRSA will not respond when queried from Launch Enable Unit.  
LF I-05 UER 002987 (6-6-63) - VRSA failed to read out on test sequence 4C of launch facility start-up test.

NOTE: Adjustment of S4 and S5 accounts for sticking channel. ECP 637 initiated to make the adjustment of S4 and S5 less critical.

Incompletely Analyzed

Location

LF B-05 UER 034381 (4-6-63) - Indicator extinguishes when memory reset is actuated.  
LF B-11 UER 191932 (5-12-63) - VRSA malfunction.

The following events occurred in the CSA:

Pre-Installation Rejection

UER 083209 (6-10-63) - 09621100-601A - Input signal converter does not comply with Figure 7-5 Step "E" of D2-10825-36.  
UER 194952 (5-17-63) - Each channel plays only once because of broken wire.

Human Errors - Hardware Failure

UER 092545 (5-6-63) - Locking tabs on rewind reel broke while changing tape.

Primary Failure Events

UER 092497 (5-7-63) - No read out channel 1-20, P/N 09621500-601C.

Personnel or Test Error

Location

LF K-08 FSRR -610R (6-1-63) - Rack S/N unknown, A-3 Drawer S/N 0000078  
Pins in J1 and J2 shorted by metallic tape  
used instead of plastic caps to protect  
plugs from contamination.

Replaced Assembly Retested Good

Location

LF D-06 FSRR -299R (3-11-63) - Rack S/N 0000058, Drawer S/N 0000080.  
Voltages at site read between wrong points.

Miscellaneous

Location

OOAMA OOAMA-33 (5-20-63) - Rack S/N unknown. The report states that the  
A-4 drawer, S/N 0000036, was sent to a site but  
not used there. OOAMA received the drawer with  
a damaged handle, a considerably damaged  
25-25298-17 module and a missing resistor, R4,  
on the 25-23191-15 module. The report further  
states that available information seems to  
indicate that the drawer was cannabilized  
after being damaged.

In Process

Location

LF E-03 FSRR -354R (3-20-63), Multiple failures of the  
FSRR -355R (3-21-63) A-1 Drawer.

LF H-04 FSRR -444R (4-20-63) - Incomplete information.

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Figure A 1423 - Antenna Group (AN/GRA-72)

Contamination & Damage

Location

LCF L-01 UER 132870 (5-16-63) - Twelve (12) radial antenna ground wires found during post-installation inspection cut or damaged near base attaching points.

Figure A 1424 - Antenna, UHF Hardened (AS-1213/GRC-113)

Pre-Installation Rejections

Location

LCF B-01 UER 111048 (5-4-63) - Antenna Mast Section P/N 548-9906004-8 received with three pieces P/N 5483180012 cracked due to improper packaging for shipment. Cracked sections removed and replaced.

LCF M-01 UER 192819 (6-5-63) - UHF Antenna has damaged weather dome P/N 25-29810-1, Dome was removed and replaced.

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Figure A 1600 - Door, Launcher, Personnel Access, Primary

Pre-Installation Rejections:

Location

LF B-09 UER 034440 (4-15-63) - Hatch lid appears to be binding. Required a wrench to break it loose. Fixed by grinding off interfering material.

LF B-06 UER 191934 (5-16-63) - Hatch lid binding on rim at ground level, at a point opposite ladder way. Fixed by grinding rim.

LF D-08 UER 003188 (6-1-63) - Access hatch binds on concrete in closed position: Ground off to provide approx. 1/16 inch clearance.

Contamination & Damage

Location

LF G-10 UER 060955 (4-16-63) - Hatch cover, broken lift handle.

LF G-08 UER 060956 (4-18-63) - Hatch hinge cover seal, broken hinge pins.

LF B-02 UER 031659 (5-1-63) - Hinge cover damaged. Pins on both hinges broken, and one mounting stud required welding.

LF F-10 UER 003073 (5-16-63) - Lighting fixture lens, Crouse-Hinds Type RCD8, cracked.

LF B-06 UER 031543 (5-15-63) - Four NKS-type screws for attaching lower NITRO ring shim were broken.

Human Error- Hardware Failure

The following items of damage were the result of disregarding explicit instructions to clear the Hatch Lid Seal before the Personnel Access Hatch is opened by the hydraulic system:

Location

LF D-10 UER 192033 (5-25-63) - Hinge cover plate sheared on Access Hatch.

LF B-11 UER 151889 (4-17-63) - Hinge plate cover, both hinges broken, handle broken off, and two bolts stripped.

LF B-04 UER 119464 (4-13-63) - Hatch lid metal seal broken at pin when Access Hatch was opened without the seal being pulled back first.

Figure A 1600 (Cont'd)  
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Primary Failure Events

Location

LF L-09	UER 132732 (5-15-63)	- The inner rubber seal on the Personnel Access Hatch is not adhearing.
LF L-05	UER 059565 (5-24-63)	- The inner NITRO seal packing is separating from the door at several places.
LF B-09	UER 065352 (6-6-63)	- The Access Hatch rubber gasket is split.
LF B-07	UER 065092 (6-8-63)	- The rubber weather seal around the Personnel Hatch Primary Door is broken.

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Figure A 1601 - Cylinder Assembly, Actuating, Linear

Pre-Installation Rejections

Location

- |         |   |
|---------|---|
| LF I-10 | UER 171319 (4-23-63) - Hydraulic Cylinder Mounting Plate, P/N 3037-1737, protrudes into access shaft preventing clearance for AC0697. |
| LF O-09 | UER 172530 (5-14-63) - Hydraulic Cylinder Barrel, P/N A-1202-E-70U, is leaking through two pin holes in the housing.                  |

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Figure A 1602 - Pumping Unit, Hydraulic

Pre-Installation Rejections

Location

- LF K-03 UER 059882 (5-29-63) - Hydraulic Pump Unit has leak around the inspection plate and drain plug. Resealed.
- LF D-06 UER 141522 (3-25-63) - Loose wiring connections caused erratic hydraulic pump motor operation. Connections tightened and satisfactory operation restored.

Primary Failure Events

Location

- LF G-11 UER 163377 (4-9-63) - Adjustment screw to Hydraulic Pump, P/N OH2B5V1-L-SP, will not produce more than 200 psi. Pump has unusual whine.
- LF B-06 UER 003522 (5-14-63) - Hydraulic Pump will not deliver pressure. Pump running extremely hot; gears and machined surfaces badly scored.
- LF O-09 UER 059505 (5-16-63) - Hydraulic Pump will not generate pressure above 500 psi. This condition will not allow hatch to open.
- LF D-08 UER 003236 (5-16-63) - Hydraulic Gear Pump Assembly will not produce over 900 psi. Removed and replaced.



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Figure A 1603 - Piping and Control Set, Hydraulic,  
Launcher Personnel Access

Pre -Installation Rejections

Location

- LF I-08 UER 060839 (4-23-63) - Four-way hydraulic valve has a leaking hydraulic fitting. Tightened back-up nut, while working.
- LF B-09 UER 060300 (5-13-63) - Hydraulic line to Hydraulic Pump leaking. Removed burrs from tubing flange and fitting checked out tight.
- LF D-03 UER 151873 (5-15-63) - Hydraulic line is cracked and leaks under pressure.

Contamination & Damage

Location

- LF L-03 UER 192774 (5-18-63) - Two-inch hydraulic line cut by grinder for approximately  $\frac{1}{2}$  its wall thickness while installing sight tube.
- LF L-08 UER 172484 (5-13-63) - Hydraulic line burned through by arc welder during sight tube installation.
- LF C-05 UER 003325 (5-24-63) - Hole accidentally burnt in  $\frac{1}{4}$ -inch hydraulic line, in the area of the actuator cavity.
- LF D-10 UER 192035 (5-28-63) - Hydraulic line to Hydraulic Actuator broken at the Actuator, result of using the piping for a step.
- LF E-05 UER 046135 (6-9-63) - Four-way Hydraulic Valve side broken out where conduit goes into valve.
- LF B-07 UER 141376 (4-3-63) - The four-way hydraulic valve is sluggish and intermittent. Previously was full of grout from the Polaris sight tube.
- LF G-10 UER 073398 (6-4-63) - Hydraulic Line #1 has a leak in the passage through the Sight Tube. Leak caused by burn from welding operation.
- LF B-05 UER 046181 (5-13-63) - Four-way hydraulic valve solenoid found to be damage by water and shorted out.

Primary Failure Events

Location

- LF B-03 UER 043918 (5-2-63) - Four-way Hydraulic Valve Solenoid, P/N C95624, replaced to enable opening function.
- LF B-07 UER 188677 (5-23-63) - Four-way Hydraulic Valve Solenoid burned out.
- LF E-06 UER 046316 (5-24-63) - Four-way Hydraulic Valve Solenoid burned out on the downside function.
- LF B-05 UER 046242 (4-27-63) - The solenoid, P/N G43285-27, Model DZ-2634, to the four-way hydraulic valve has burned out in the closed position.

Figure A 1604 - Door, Launcher Personnel Access, Secondary

Pre-Installation Rejection

Location

- LF B-04 UER 119582 (4-15-63) - Hinge weld has come loose from Access Door Cover at the second level of the equipment room.

Contamination & Damage

Location

- LF B-09 UER 034460 (4-12-63) - Brass face plate on Secondary Door, top right rail guide, has been knocked off and top stud is broken.
- LF B-09 UER 134703 (4-27-63) - Lock mechanism P/N 26-15701-2, S/N EEE0206, has corroded lock bolts.
- LF B-05 UER 046240 (4-27-63) - Lock Mechanism, P/N 26-15701-2, has corrosion in a locking pin sleeve.
- LF B-06 UER 134587 (4-27-63) - Lock Mechanism, P/N 26-15701-2, S/N EEE0203, has badly corroded to locking pins.
- LF B-08 UER 134642 (4-28-63) - Lock Mechanism, P/N 26-15701-2, S/N EEE0205, has badly corroded locking pins.
- LF B-07 UER 046339 (4-28-63) - Lock Mechanism, P/N 26-15701-2, S/N EEE0214, has badly corroded locking bolts.

Figure A 1604 (Cont'd)

Contamination & Damage

Location

LF D-03 UER 043595 (5-15-63) - Secondary Door was accidentally dropped 6 inches during installation and damaged.  
LF I-07 UER 163210 (5-10-63) - Secondary Door dropped from approximately 20 feet. Extent of damage unknown.

Figure A 1605 - Actuator, Electro-Mechanical

Contamination & Damage

Location

LF D-03 UER 134653 (5-19-63) - While the Secondary Door was being lowered into place by crane, it was dropped 6 inches on to the Electro-Mechanical Actuator, P/N 26-15702-2.

Primary Failure Events

Location

LF D-08 UER 046373 (5-1-63) - Micro-switch on Personnel Access Hatch is inoperative. Removed and replaced switch.

Figure A 1606 - Wiring and Control Set, Electrical

Pre-Installation Rejections

Location

LF B-03 UER 188761 (5-19-63) - Access Hatch Switch circuit has been wired in reverse.

Figure A 1606 (Cont'd)

Contamination & Damage

Location

- LF B-06      UER 110685 (5-4-63) - Bakelite on hydraulic pressure indicator light at Control Station 3037-1449 is broken.
- LF B-09      UER 188683 (5-19-63) - Switch in Security Vault Door has been broken by personnel entering.

Primary Failure Events

Location

- LF E-06      UER 141378 (4-3-63) - Key-operated switch for Personnel Hatch actuating mechanism inoperative.
- LF F-06      UER 061032 (4-25-63) - Three position Key Switch inoperative. Key turns through 360 degrees without actuating switch mechanism.
- LF F-09      UER 171521 (5-15-63) - Key Switch, P/N 1202-C175 (Rucker), cannot be turned to the closed position.
- LF B-11      UER 126808 (5-17-63) - Switch Box Assembly will not open the hatch, but will close it. Trouble appears to be in the switch.
- LF K-11      UER 172401 (5-2-63) - Key Switch, P/N 55-SKJAK 101261, is intermittent in operation.
- LF F-11      UER 106937 (4-23-63) - Key Switch does not operate as it should. Temporarily replaced by a toggle type switch.
- LF J-10      UER 163102 (3-26-63) - Key Switch, P/N 2940VN200 AL, is jammed. Hatch Actuator can not be energized.
- LF G-04      UER 073526 (6-7-63) - Key Switch Module, P/N CR 2940U312A, is faulty.
- LF B-11      UER 073190 (5-8-63) - Key Switch will not operate in the "raise" position. Removed and replaced switch assembly.
- LF B-07      UER 145169 (6-6-63) - Key Switch will not operate in the "raise" position. Removed switch, cleaned, lubricated and re-installed.

Figure A 1606 (Cont'd)

Primary Failure Events(Cont'd)

Location

LF F-11 UER 171422, (3-18-63) - Key Switch must be jumpered to operate hatch actuating mechanism.

LF F-02 UER 171424 (3-18-63) - Key Switch must be jumpered.

Figure A 1607 - Security and Alarm Set,  
Launcher, Personnel Access

Pre-Installation Rejection

Location

LF B-06 UER 034138 (5-14-63) - Terminal Board in Junction Box, P/N 3037-1437, loose.

Contamination & Damage

Location

LF F-06 UER 163383 (4-9-63) - ADT Magnetic Security Switch, P/N P-30395-C-12-61, casting broken.

Primary Failure Events

Location

LF B-04 UER 134691 (5-14-63) - Capacitor P/N 1JX98, S/N APPO211, used in the 3037-1431 Junction Box, is ruptured.

LF I-05 UER 036065 (6-5-63) - DC-DC Converter, Model 10PE107, S/N 213; no output voltage.

LF D-09 UER 065244 (6-14-63) - DC-DC Converter, P/N Unk; no output voltage.

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Figure A 1608 - Door, Vault, Security Pit

Pre-Installation Rejection

Location

LF B-09      UER 046552 (5-11-63) - Vault Door locking pins do not have enough clearance on shims for bolts to be thrown. Back side of shims were ground to provide necessary clearance.

Contamination & Damage

Location

LF J-08      UER 163242 (4-27-63) - Light switch cover assembly in Security Pit is mutilated, burned and charred.  
                 UER 150592

Figure A 1610 - Guide Rail Assembly, Secondary Door

Pre-Installation Rejection

Location

LF L-09      UER 172316 (4-17-63) - Guide Rail Assembly has two cracks. Largest crack is 3/4 inch.  
LF L-09      UER 172316 (4-17-63) - Two cracks appear in the Guide Rail Assembly.

Contamination & Damage

Location

LF L-02      UER 172343 (4-23-63) - Guide Rail Assembly cracked approximately 1/2 inch near one end of rail. Received in damaged condition.

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Figure A 1611 - Ladder, Telescoping, Launcher,  
Personnel Access

Pre-Installation Rejection

Location

LF D-10 UER 040274 (6-8-63) - Telescoping ladder is approximately 1 inch too short to rest on the Secondary Door brackets.

Contamination & Damage

Location

LF B-08 UER 003520 (5-12-63) - Telescoping Ladder has one rung mechanically ground half way through.

LF B-06 UER 003529 (5-16-63) - Attaching bolt of lower bracket of telescoping ladder broken.

LF B-09 UER 188835 (5-7-63) - Telescoping Ladder is deformed and has one screw missing from top rung.

Primary Failure Events

Location

LF B-03 UER 003232 (5-17-63) - The second section from the bottom of the Telescoping Ladder, will not retract when the Secondary Door is run up.

LF B-11 UER 188835 (6-6-63) - The Telescoping Ladder will not operate properly; it binds and will not telescope.

Incompletely Analyzed

LF I-07 UER 163209 (5-12-63) - Bottom section of the Telescoping Ladder became disconnected from the top section and fell in Access Shaft, breaking rungs.

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Figure A 1614 - Frame, Vault Door

Contamination & Damage

Location

LF K-02 UER 132847 (5-29-63) - Vault Door Frame, P/N 3037-1505, S/N TTTO303, has been scarred by a cut approximately 3 inches long and 0.50 inches deep on inner recess of frame.



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Figure A 3007 - Test Set, Explosive Set Circuitry

Pre-Installation Rejections

Location

CSA	UER 137516 (5-28-63)	} Batteries (P/N 1C2565-1 & -2) weak.
CSA	UER 125015 (6-6-63)	
CSA	UER 125014 (6-6-63)	
CSA	UER 125197 (6-6-63)	
CSA	UER 125207 (6-6-63)	

Primary Failure Events

CSA	UER 083330 (6-12-63) - Bridgewire resistance meter could not be nulled. No further information.
-----	---

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Figure A 3092 - Programmer Group Test Set

Pre-Installation Rejections

Location

CSA	UER 117428 (4-3-63)	- Defective cable, P/N 29-22044-1
CSA	UER 117466 (4-12-63)	- Incomplete kit incorporation, P/N 25-29119-9
CSA	UER 117473 (4-16-63)	- Missing wire on card reader, P/N 25-29139-6
CSA	UER 092455 (4-30-63)	- Type C evaluates P/N 25-29108-1
CSA	UER 092444 (5-1-63)	- Comparator evaluator P/N 25-29112-1
CSA	UER 092482 (5-2-63)	- Diode and card reader assembly, P/N 25-29139-6
CSA	UER 092466 (5-2-63)	- Output buffer amplifier, P/N 25-29105-13

} Test response  
out of  
specification.

Contamination & Damage

Location

CSA	UER 117491 (4-24-63)	- Connector pin pushed back.
LF B-11	UER 126800 (5-14-63)	- Test set cover is damaged.

Human Errors - Retest Good

Location

CSA	UER 092421 (4-8-63)	- Cable, P/N 25-34850-1. Failure analysis shows cable is good.
CSA	UER 117476 (4-18-63)	- Module P/N 25-29105-10. Failure analysis shows circuit card is good.

Faulty Instructions - A&CO Peculiar

Location

CSA	UER 117261 (3-29-63)	- Module P/N 25-29112-1. Power supply over- loaded during test due to insufficient direction.
-----	----------------------	---

Figure A 3092 (Cont'd)  
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Primary Failure Events

Location

CSA	UER 117309 (4-6-63) - Modules P/N 25-29108-1. Test response could not be realized per document direction. No retest data received.
CSA	UER 092440 (4-26-63) Module P/N 25-29108-1. Card caused "No-Go" indication. No retest data received.
CSA	UER 117488 (5-3-63) - Switch S-3, P/N BACS30BW-2, defective. No retest data received.

Incompletely Analyzed

CSA	UER 124924 (5-16-63) - P/N 25-26725-5 S/N 0000020 - Faulty operation of test set. No retest data received.
-----	--

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Figure A/ACO 4012 - Test Set, Data Analysis Central, AN/GYM-1

Pre-Installation Rejections

Location

CSA UER 117181 (4-12-63) - During functional test self verification, obtained improper test response. Isolated to defective module A142, P/N 8747092-501. No further information.

CSA UER 124855 (5-4-63) - Defective Module A152, P/N 8747092-501. No details given.

Human Error - Retest Good

Location

LCF B-1 UER 110923 (4-14-63) - The negative 6-volt green light does not come on when the power switch is "on". "Use as is" disposition. (Fig. A 4012, S/N 0000053).

Primary Failure Events

Location

CSA UER 124857 (5-9-63) - ACO 4012, S/N 0000053, fails self-test boards SV/1B, SV/1D, and SV/1E. Diode Unit A152 P/N 8747092-501 has a shorted diode, P/N 8935922-1 between pins 7 and 19.

UER 124861 - Diode Unit A142, P/N 8747092-501 is defective - no details.

UER 124864 - Module A8, P/N 8625753-501, is defective - no details

UER 124845 - Module A59, P/N 8626652-501 has a 10-microsecond switching time. It should be only 2 microseconds. Module returned to RCA.

UER 137429

Primary Failure Events (Cont'd)

Location

CSA	UER 137433 (5-28-63)	- Two Diode Units, P/N 8747092-501 contain open diodes.
	UER 137437	- Module, P/N 8626652-501, is defective - no details.
	UER 137451	- Diode Unit A152, P/N 8747092-501 is defective - no details.
CSA	UER 125041 (6-3-63)	- Diode Unit A142, P/N 8747092-501 is defective - no details.
	UER 083137	- Diode Unit A152 P/N 8747092-501 is defective - no details.
LF D-05	UER 043793 (5-6-63)	- ACO 4012 failed self-test board L/5A. No details given.
	UER 083164	- Module A59, P/N 8624095-501 is defective - no details.
	UER 083165	- Module A60, P/N 8624094-501 is defective - no details.
CSA	UER 125181 (6-7-63)	- Diode Units A142 and A152, P/N 8747092-501 are defective - no details.
CSA	UER 083193 (6-9-63)	- Module A77, P/N 8624075-501 is defective - no details.

The above events are considered to be Primary Failure Events based on the latest available information, although subject to reclassification upon receipt of supplemental data.

Incompletely Analyzed

Location

LCF B-1	UER 043850 (3-29-63)	- During self test of ACO 4012 both tester-power "good" light and drawer - fault light illuminated. No further details given. ACO 4012 returned to the CSA for retest and evaluation. No further information.
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## EAFB - A&amp;CO DATA

March 28 through June 26, 1963

Figure A 4018 - Adapter Group, TestPre-Installation RejectionsLocation

SMSB UER 137408 (5-10-63) - Adapter Group failed functional test due to two defective modules - A-5 (25-33120-1) and A-12 (25-33114-1).

CSA UER 117487 (4-27-63) - Test Adapter P/N 8622819-502 has broken pin on J-7 connector.

CSA UER 124979 (5-23-63) - Adapter Group failed functional test due to two pins in the Test Adapter P/N 8622819 being shorted. Pins removed and replaced.

Primary Failure EventsLocation

SMSB UER 137409 (5-17-63) - Unit fails self-test due to defective Logic Module Assembly, P/N 25-31601-13.

SMSB UER 137423 (5-25-63) - Unit failed self-test. Potentiometers on cards A-9 and A-6 of Adapter Group P/N UER 137421 25-26876-1 readjusted.

CSA UER 083279 (6-11-63) - Unit fails self-check due to defective A-12 module, P/N 8705992-501.

CSA UER 125067 (5-24-63) - Adapter Group gave No-Go during self-test. Trouble traced to defective A-5 module, P/N 25-33136-9 in A-2 drawer, P/N 25-31605-1. No further information.

CSA UER 124918 (5-13-63) - Adapter Group gave No-Go during self-check. Trouble traced to defective A-43 module, P/N 8619233-501 in A-6 drawer P/N 1193071-501. No further information.

CSA UER 117133 (6-3-63) - Adapter Group gave No-Go during self-check. Trouble due to defective Module A-42, P/N 8624525-501. No further information.

CSA UER 125191 (6-4-63) - Adapter Group gave No-Go during self-check. Trouble traced to A-23 module 8618986-501. No further information.

Figure A 4018 (cont'd)  
Page 2 of 2

Incompletely Analyzed

Location

CSA

UER 124849 (5-13-63) - Several No-Go's encountered during self-check.  
UER 124955 - Isolated to defective A-5 card, P/N 25-25356-9.  
No further information.

EAFB - A&CO DATA

Mar. 28 thru June 26, 1963

Figure A 4024 - Semi-Trailer, Re-Entry Vehicle and G&C Section

Contamination & Damage

- UER 123737 (5-15-63) - Engaging pin for left forward jack handle broken. Installed new pin.
- UER 159096 (5-6-63) - Lock and Handle Assembly, Standard Mfg. Co. P/N 2L438D4. Lock in handle is broken. Replaced P/N 2L438D4.
- UER 123920 (5-31-63) - Hoist Semi-Trailer Control Pendant, Standard Mfg. Co. P/N 2D33D-9. Forward bridge button on pendant inoperative due to sticking of forward travel limit switch. Cleaned switch.

Human Error - Hardware Failure

- UER 123937 (6-6-63) - Hoist lock at front of rack broken. Removed, welded and replaced.

Incompletely Analyzed

- UER 252812 (6-14-63) - Van security alarm system micro-switch at R/H access door inoperative. Replaced micro-switch.
- UER 123936 (6-6-63) - Reverse button on hoist control pendant (launch tube) inoperative. Reason unknown.
- UER 123641 (6-9-63) - Hand Winch Cable, P/N C-617656-6933-B, for R/H environmental cover broken. Replaced cable.





EAFB - A&CO DATA

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Figure A 4053 - Adapter, Hoisting, Stabilizing Ring

Pre-Installation Rejection

UER 158875 (5-2-63) Holes in adapter (P/N 25-37012-1) do not align with  
UER 123895 (5-28-63) nut plates in 3rd stage engine. Screws cannot be in-  
stalled.

Figure A 4059 - Semi-Trailer, T-E

Pre-Installation Rejections

UER 158913 (4-23-63) - Thermal relief valve, Bendix-Pacific P/N 3059775  
defective. Removed prior to shipment to EAFB.

UER 159062 (5-9-63) - Copper tubing to air conditioning pump in Environmental  
Control Panel has deep dent and scratch. Believed to  
have occurred during assembly of unit at factory.

UER 123580 (5-13-63) - Ground wire broken loose from clip on L.H. side of  
container.

UER 159060 (5-11-63) - Hoist, Bendix-Pacific P/N 3060139. Hoist cables  
rubbing on L & R roller housings.

UER 123595 (5-13-63) - Actuator Assembly, Bendix-Pacific P/N 3059358. All  
actuators coated with residue on first 4" of each  
extension.

UER 158840 (4-2-63) - Hydraulic leak inside container "B" nut found loose.  
Torqued.

UER 151801 (5-16-63) - Air conditioning pump in environmental control panel  
leaks. Disassembled pump, permatexed gasket and  
reinstalled.

Contamination & Damage

UER 158906 (4-5-63) - Electrical conduit below L.H. personnel access door  
damaged. Damaged length replaced.

UER 159108 (5-6-63) - Actuator Assembly, Bendix-Pacific P/N 3059358. Lower  
actuators and actuator pins badly rusted. Cleaned.

Figure A 4059 (Cont'd)  
Page 2 of 2

Contamination & Damage (Cont'd)

- UER 123574 (5-14-63) - Hoist Rod Stowage Bracket, P/N 25-31060-14, cracked. Replaced.
- UER 159158 (5-24-63) - Running light conduit cracked. Replaced running light.
- UER 159157 (5-24-63) } Retaining screw for R/H upper actuator hinge pin  
UER 159216 (4-24-63) } sheared off. Replaced.
- UER 040534 (5-29-63) - O-ring seal in stowage fitting for tractor hydraulic pressure line quick disconnect is cut and damaged. Replaced fitting.
- UER 159027 (5-13-63) - Environmental seals on L/H personnel access and 1st stage tie-down access doorways broken and pulled loose. Repaired.

Primary Failure Events

- UER 123590 (5-13-63) - Actuator Assembly, Bendix-Pacific P/N 3059358 L.H. actuator leaks between 3rd and 4th extensions. Replaced.
- EUR CSD 6-63-44 (6-6-63) - Environmental control system does not monitor humidity correctly. Humidity warning light burns continuously. (T-E S/N 0000022 and S/N 0000027)

Incompletely Analyzed

- UER 123881 (6-1-63) - Hoist pump leaking. Replaced O-ring seals.

EAFFB - A&CO DATA

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Figure A 4075 - Tractor, T-E.

Pre-Installation Rejections

- UER 158895 (4-11-63) - Faulty operation of hand throttle. Throttle wire improperly fastened to throttle handle.
- UER 159195 (4-25-63) - Unable to set emergency hand brake because of improper installation.
- UER 159150 (5-1-63) - Drive shaft assembly between main and auxiliary gear-boxes "whips". Removed, balanced and reinstalled drive shaft.

Contamination & Damage

- UER 158907 (4-5-63) - Left rear height control valve leaks. Removed, cleaned out foreign material and reinstalled.
- UER 159083 (5-6-63) - Auxiliary transmission 1st, 2nd, and 3rd speed shift rods rusty and dirty.

Human Error - Hardware Failure

- UER 159045 (5-24-63) - Drain cock on bottom of hydraulic reservoir broken. Replaced drain cock.

Primary Failure Events

- UER 159152 (4-30-63) - Shifting linkage rod broken on power take-off for hydraulic pumps. Remove, weld and reinstall.
- \*UER 123793 (5-22-63) - Instrument Panel Assembly, GMC P/N 5655998. Water temperature gage in panel assembly inoperative. Replaced panel assembly.

Incompletely Analyzed

- UER 159133 (5-4-63) - Hand throttle not operating properly.

Figure A 4075 (Cont'd)  
Page 2 of 2

Incompletely Analyzed (Cont'd)

UER 159032 (5-11-63) - Leak in cab of tractor attributed to coils of cab heater. Bypassed heater as a temporary fix.

UER 123759 (5-22-63) - Alternator pulley rattles and makes excessive noise. Replaced pulley.

\* This event involves a true primary failure of a part. However, since this failure would not delay or prevent delivery, emplacement or removal of a missile, such a failure does not count against the reliability of the Figure A.

EAFB - A&CO DATA

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Figure A 4105 - Gearcase Motor

Human Errors - Hardware Failure

Location

LF H-03 UER 150567 (4-30-63) - Motor assembly (P/N 3011M1-1) damaged.  
LF K-05 UER 132800 (6-5-63) - Drive gear damaged and power control  
inoperative.  
LF G-07 UER 046532 (5-13-63) - Power cable (P/N P100E2-4) damaged.

Primary Failure Events

Location

LF K-09 UER 192905 (6-6-63) - Gearcase Motor inoperative - will not  
traverse forward.

The following events have been reported from the CSA. No correlation has been  
noted with malfunctions reported from the Launch Facilities.

UER 159200 (4-25-63) - Power Control (P/N P100E2-1) switch out of adjustment.  
UER 159199 (4-25-63) - Bearings noisy.  
UER 159201 (4-25-63) - Power control (P/N P100E2) inoperative.  
UER 159073 (5-9-63) - Motor assembly (P/N 3011M1-1) damaged.  
UER 123537 (5-11-63) - Power control (P/N P100E2-1) switch contacts out of  
adjustment.  
UER 159037 (5-11-63) - Power control (P/N P100E2-1A) time relays inoperative.  
UER 159078 (5-7-63) - Power control (P/N P100E2-1A) time relays inoperative.  
UER 158980 (5-23-63) - Bearings pitted.  
UER 132750 (5-18-63) - Power relays (P/N 4A1204A) contacts broken, pendant  
cable (P/N P100E2-2) damaged, and power cable  
(P/N P100E2-4) damaged.  
UER 123671 (6-8-63) - Bearings pitted and power control (P/N P100E2-1A) relays  
out of adjustment.  
UER 123756 (6-10-63) - Control box (P/N P100E2-1A) transformer burned up,  
terminal box (P/N P100E2-5A) shorted out, and bearings  
pitted.

Figure A 4105 (Cont'd)  
Page 2 of 2

Primary Failure Events (Cont'd)

UER 158983 (4-18-63) - Pusharm Assembly (P/N 3011M20) broken and interpole screws (P/N 3011M90) broken off.

UER 123545 (5-15-63) - Power control (P/N P100E2-1A) contact screws broken off.

UER 158986 (5-15-63) - Drive gear (P/N 3011M49) damaged.

UER 158981 (5-15-63) - Drive gear (P/N 3011M49) damaged.

EAFB - A&CO DATA

Mar. 28 thru June 26, 1963

Figure A 4119 - Truck, T-E Support

Contamination & Damage

- UER 158998 (4-17-63) - Windshield (P/N 178034) cracked. Replaced.  
(Dodge Truck)
- UER 159001 (4-19-63) - R.H. side view mirror assembly broken off truck.

Primary Failure Events

- UER 158996 (4-17-63) - Right rear Brake Drum (P/N 1665-240) cracked. Replaced.  
(Dodge truck)
- UER 159159 (5-24-63) - Electrical wiring for lighting system shorted out at  
the firewall. Spliced and re-insulated wires and  
replaced firewall grommet.

Figure A 4129 - Trailer, Ballistic Missile

Contamination & Damage

- UER 123852 (5-31-63) - Lock Handle, P/N 6507-257, on R/H landing gear is  
inoperative. Replaced broken mount bolt.



E. FB - A&CO DATA

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Figure A 4150 - Test Repair Set; Cooler Liquid, G&C

Primary Failure Event

The following failure occurred on the G&C cooler test repair bench (P/N 25-33383-1) located at the SMSB:

UER 137422 (5-4-63) - The water filter (Commercial Filter Corp. P/N FUL-FLO SSB 10-3/4) is clogged and shredding fibers. The linen sheath did not cover all the holes in the filter.

Figure A 4152 - Test Equipment, Electronic Facility - Base Maintenance

Pre-Installation Rejection

Location

CSA UER 092343 (4-3-63) - Pin 52 of J-1 improperly inserted.

FB - A&CO DATA

Mar. . . thru June 26, 1963

Figure A 4175 - Jack Set, Translating

Primary Failure Events

UER 123817 (5-23-63)

UER 123772 (5-22-63)

UER 123773 (5-22-63)

UER 123774 (5-22-63)

UER 123775 (5-22-63)

Hydraulic Pump, P/N 29-21668, leaks and does not operate correctly. Replaced and reworked by local representative of vendor (Blackhawk Mfg. Co. Model No. P-80)

ECP 663 proposes a high pressure seal configuration change and a pressure reduction on the low pressure "V" ring seals.

Figure A 4187 - Alarm Set, Missile Storage & Transit

Primary Failure Events

UER 159002 (4-20-63) - Alarm Set, P/N 26-15086-2, will not record all environmental events. Replaced alarm set.

UER 159024 (5-18-63) - Alarm Set, United Electro-Dynamics P/N 16191-1, records erroneous counts and does not respond to self check procedure. Replaced alarm set.

ECP 341 has been proposed to incorporate changes required to establish confidence in environmental monitoring capability.

Figure A 4188 - Jack Set, Leveling

Primary Failure Events

UER 123877 (6-3-63) - Hydraulic Pump, P/N 29-21668, leaks. Pump reworked by local representative of vendor. (Blackhawk Mfg. Co. Model No. P-80) Same pump as used on Fig. A 4175.

EAFB - A&CO DATA

Mar. 28 thru June 26, 1963

Figure A 4265 - Cover Set, Sling

Human Error - Hardware Failure

UER 123741 (5-15-63) - One set of 4 sling rod end covers, P/N 29-19806-1, failed - fasteners pulled thru plastic. Replaced covers.

EAFB - A&CO DATA

Mar. 28 thru June 26, 1963

Figure A 4441 - Protractor Strip Set, Autocollimator

Pre-Installation Rejections

Location

LF D-09	UER 034318 (4-15-63)	} Loose strip (P/N 29-18688-2)
LF B-04	UER 060288 (5-12-63)	
LF B-06	UER 043960 (4-29-63)	
LF D-11	UER 151803 (5-15-63)	

Contamination & Damage

Location

LF B-11      UER 126776 (5-3-63) - Bent strip (P/N 29-18688-2)

Figure A 4487 - Simulator, Command Signal

Human Error - Retest Good

Location

CSA      UER 124841 (5-9-63) - Simulator was reported as having an intermittent fault. Ran functional test several times with no recurrence. Returned to service.

EAFFB - A&CO DATA

Mar. 28 thru June 26, 1963

Figure A 4489 - Message Generator

Pre-Installation Rejection

Location

- CSA UER 117164 (4-17-63) - During functional test, the "bit advance" button, P/N 8535076, intermittantly sticks in the depressed position.
- CSA UER 092463 (5-1-63) - On Fig. A 4489, S/N 0000017, the "L Address Switch" S2 binds due to a broken internal mechanical connection.
- CSA UER 137560 (5-23-63) - Module A-9, P/N 8624095-501, is defective between pins 8 and 15.
- UER 137562 - Module A-5, P/N 8624095-501, has defective gates.

Primary Failure Events

Location

- CSA UER 125225 (6-5-63) - Module A-27, P/N 8625755-501, is reported as defective - no details.

Figure A 4490 - Simulator Set, Electrical Functions

Contamination & Damage

Location

- CSA UER 092434 (5-20-63) - Rubber jacket on the cable supplied with this end item was damaged while removing a name plate for modification. An Engineering Liaison Report was initiated for evaluation of removal procedures and a process specification departure was initiated for approval.
- CSA UER 092224 (4-29-63) - No recording on Channel 12. Stylus was bent and not making contact with power supply.

EAFB - ARCO DATA

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Figure A 4523 - Power Supply

Human Error - Hardware Failure

Location

CSA UER 124854 - 28 volt module board P/N 25-33360-5 is inoperative. Failure analysis indicates that Silicon Controlled Rectifier CR8 (P/N 552M) received a transient current which welded the junction together, melted the cathode lead, shorted the anode to gate and continued to conduct the overload current to R6, CR7 and CR11.

Human Error - Retest Good

Location

CSA UER 124948 (5-15-63) - Power supply causes AC circuit breaker to open. Power supply retests per document.

Primary Failure Events

Location

CSA UER 092507 (5-3-63) - AC switch BAC18K-1503A will not stay energized.

CSA UER 124920 (5-16-63) - 28 volt reset switch (BAC 530BW2) will not reset the circuit.

CSA UER 124935 (5-7-63) - Unable to calibrate power supply due to excessive ripple. Module 25-33354-7 (10 volt supply) retested per document tolerances and module 25-33357-7 (18 volt supply) had a high collector-emitter leakage current in transistor Q2 (P/N 853B). Q2 will undergo physics of failure.

Incompletely Analyzed

Location

CSA UER 092559 (5-2-63) - Ripple out-of-tolerance. 29-26819-1 transistor and diode heat sink defective. Circuit card replaced. No additional information.

EAFB - A&CO DATA

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Figure A 4535 - Alignment Set, Missile Transfer

Contamination & Damage

UER 123771 (5-22-63) - Optical Alignment Set, P/N 2900-G2, cannot be adjusted. Cleaned and reassembled at Cal/Cert.

EAFB - A&CO DATA

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Figure A 4539 - Voice Reporting Signal Assembly Test Set

Pre-Installation Rejections

Location

CSA UER 117296 (4-1-63) - Cable P/N 09627006-601A. Wiring error.



THE **BOEING** COMPANY

NUMBER D2-5286-41

SECTION TITLE CATEGORY I & II FAILURE DATA,

VANDENBERG AIR FORCE BASE, FOR MAY, 1963

PREPARED BY Reliability Evaluation Group 2-1772-3

SUPERVISED BY R. G. Bush 7/17/63  
R. G. Bush

APPROVED BY R. J. Delaney

APPROVED BY for R. J. Delaney 7/17/63  
F. L. Curtis (DATE)

0000 REV. 2/63

REV SYM \_\_\_\_\_

VOL. NO. \_\_\_\_\_ OF \_\_\_\_\_  
SECT. E PAGE 1 of 64

US 4200 2000 REV. 8/62

**BOEING**

NO. D2-5286-41

SECT. E | PAGE 2

MONTHLY SUMMARY - CAT. I & II FAILURE REPORT DATA FROM VANDENBERG AFB - June 26, 1963																	
FIG. A NOMENCLATURE	No. of Flg. A's (Population)	NUMBER OF DISCRETE FAILURE EVENTS				BREAKDOWN-LF LCF FAILURES SINCE 5-28-63											THIS MO Incompletely Analyzed
		TO DATE		Last 3 Mos Since 5-28-63	This Mo. # This Wk	Pre-Installs. & Rejections		Contamination & Damage	Hard- ware Failure	Retest Good	AGCO Regular	Normal Operat- ing	Secondary Events Due to Faulty Instruction	Primary Failure Events			
		LF & LCF Only	CSA Only			LF & LCF	THIS WK										
		623 Adapter Group, Test	** 151	65	6/2	-	-	-	-	-	-	-	-	-	-	-	
624 Test Center, Programmer	** 148	56	3/0	-	-	-	-	-	-	-	-	-	-	-	-	-	
622 Guidance & Control Group	** 74	17	10/3	-	-	-	-	-	-	-	-	-	-	-	-	-	
6304 Conduit Supt. Set, R/W	** 20	14	1/0	5/0	9/1	0	0	0	0	0	0	0	0	0	0	0	
6301 Instr. Grp., Trainer Test	21	0	13	3/0	8/3	4/0	0	1/0	0	1/0	0	0	0	0	0	0	
9112 Power Control Set - CTLI	27	3	13	0	2/0	1/0	0	0	0	0	0	0	0	0	5/0	5/0	
4043 Elevator - Work Cage	** 38	13	5/0	5/3	4/1	2/1	0	0	0	0	0	0	0	0	1/0	1/0	
4059 Semi-Trailer, T-E	** 28	9	0	0	0	3/0	0	0	0	0	0	0	0	0	6/0	0	
4075 Tractor, T-E	** 11	8	0	1/0	1/0	1/0	0	0	0	0	0	0	0	0	5/0	0	
9160 Retractor, G&C Umbilical	10	0	7	0	2/0	1/0	1/0	0	1/0	0	1/0	0	0	0	2/0	0	
9027 Act. & Lock'g Mech., LF	11	2	6	2/0	2/2	1/0	1/0	0	0	0	0	0	0	0	2/0	0	
1201 Programmer Group	29	3	6	1/0	0	4/1	0	0	0	0	0	0	0	0	1/0	1/0	
1248 Cable Assy. Set, LF	22	0	6	0	0	5/0	0	0	0	0	0	0	1/0	0	0	0	
4115 Air Conditioning Unit	** 5	5	1/0	0	0	0	0	0	0	0	0	0	0	0	5/1	0	
1211 Environ. Cont. Sys., LF	12	0	5	1/0	-	-	-	-	-	-	-	-	-	-	-	-	
1383 Gear Rack Assy., Inch Clos	6	0	5	0	2/0	0	3/0	0	0	0	0	0	0	0	0	0	
4252 Code Insertor - Verifier	** 7	5	0	1/0	0	0	0	0	0	0	0	0	0	0	4/0	0	
1412 Signal Assy., Voice Rept.	20	0	5	0	1/0	0	0	0	0	0	0	0	0	0	4/0	0	
1204 Support, Msle Susp. Sys.	7	0	5	1/0	1/1	4/0	0	0	0	0	0	0	0	0	0	0	
604 Coupler, Control-Guidance	11	0	5	0	-	-	-	-	-	-	-	-	-	-	-	-	
* Number of Discrete Failure Events discerned from data received during this month and ( ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.																	
** No differentiation is made between failures in the CSA vs. the LF & LCF areas.																	

\* Number of Discrete Failure Events discerned from data received during this month and ( ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the LF & LCF areas.

**2-3142-2**

REV SYM \_\_\_\_\_

**DOEING**

NO. D2-5286-41

SECT. E PAGE 3

MONTHLY SUMMARY - CAT. I & II FAILURE REPORT DATA FROM VANDENBERG AFB - June 26, 1963																
FIG. A	FIGURE A NOMENCLATURE	No. of Prg. A's (Population)	NUMBER OF DISCRETE FAILURE EVENTS				BREAKDOWN-IF/LCF FAILURES SINCE 3-28-63 THIS MO *									
			TO DATE	LF & LCF		This Mo. & 3 Mos Since 3-28-63	Pre-Instal. Rejections	Contamination & Damage	Hard-ware Failure	Retest Good	ASCO Peculiar	Normal Operat-ing	Secondary Failure Events	Primary Failure Events	Incompletely Analyzed	
				Only	CSA Only											
9245	Rptr. Sys., C-Band Beacon	7	0	5	0	0	1/0	0	0	0	0	0	0	0	4/0	0
9233	Power Supply Set - CTLI	30	15	5	0	0	1/0	0	0	0	0	0	0	1/0	3/0	0
1228	Status Com'd Msg. Proc. Gp.	9	0	4	1/0	1/0	1/0	0	2/0	0	0	0	0	0	1/1	0
4802	Test Set, Data Anal. Cent.	** 5		4	0	1/0	1/0	0	0	0	0	0	0	0	3/0	0
4152	Test Equip., Elect. Facil.	** 5		4	1/0	2/1	1/0	0	0	0	0	0	0	0	0	1/0
603	Missile Targeting Set	14	0	4	0	0	-	-	-	-	-	-	-	-	-	-
9123	Test Set, Command Destruct	0	4	4	0	0	0	0	0	0	0	0	0	0	4/0	0
1251	Digital Data Group, LF	10	3	3	0	2/0	1/0	0	0	0	0	0	0	0	0	0
9186	Test Set, PCM/FM - CTLI	** 4		3	0	0	0	0	1/0	0	0	0	0	0	2/0	0
1284	Power Supply Group, LF	6	0	3	1/1	1/1	1/0	0	0	0	0	0	0	0	0	1/0
9201	Repeater Antenna & Amp.	9	0	3	0	0	0	0	0	0	0	0	0	0	2/0	1/0
4024	Semi-Trailer, R/V - G&C	** 12		2	0	0	2/0	0	0	0	0	0	0	0	0	0
4129	Trailer, Ballistic Msle.	** 3		2	0	0	0	0	0	0	0	0	0	0	2/0	0
4187	Alarm Set, Missile	** 3		2	0	0	0	0	0	0	0	0	0	0	2/0	0
4188	Jack Set, Leveling	** 3		2	0	0	2/0	0	0	0	0	0	0	0	0	0
3007	Test Set, Explos. Set Cir.	** 12		2	2/1	1/1	0	0	0	0	0	0	0	0	1/1	0
4105	Gearcase - Motor	** 17		2	0	0	1/0	1/0	0	0	0	0	0	0	0	0
3092	Programmer Group Test Set	** 11		2	0	0	1/0	0	0	0	0	0	0	0	1/0	0
6905	Conduit Supt. Set, R/W	8	0	2	0	0	2/0	0	0	0	0	0	0	0	0	0
602	Collimator Set	7	0	2	0	0	-	-	-	-	-	-	-	-	-	-
* Number of Discrete Failure Events discerned from data received during this month and ( / ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.																
** No differentiation is made between failures in the CSA vs. the LF & LCF areas.																

\* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.  
 \*\* No differentiation is made between failures in the CSA vs. the IF & LCF areas.

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MONTHLY SUMMARY - CAT. I & II FAILURE REPORT DATA FROM VANDENBERG AFB - June 26, 1963																
FIG. A	FIGURE A NOMENCLATURE	NUMBER OF DISCRETE FAILURE EVENTS				BREAKDOWN-1F/LCF FAILURES SINCE 3-28-3 THIS MO *										
		No. of Fig. A's (Population)	TO DATE		Last 3 Mos Since 3-28-3	This Mo. & This Wk	Pre-Instal. Rejections	Contamination & Damage	Hard-ware Failure	Retest Good	ACCO Peculiar	Normal Operat-ing	Secondary Failure Events	Primary Failure Events	Incompletely Analyzed	
			LF & LCF Only	GSA Only												
9164	Power Supply Group		0	2	2	0	0	1/0	0	0	0	0	0	0	0	1/0
1337	Distribution Box		2	0	2	0	1/0	0	0	0	0	0	1/0	0	0	0
4031	Truck, Mech. Maintenance		** 1		1	0	0	0	0	0	0	0	0	0	1/0	0
4078	Carriage, 1st Stage Motor		** 1		1	1/0	0	1/1	0	0	0	0	0	0	0	0
4120	Carriage, 2nd Stage Motor		** 1		1	1/0	0	1/1	0	0	0	0	0	0	0	0
4121	Carriage, 3rd Stage Motor		** 1		1	0	0	0	1/0	0	0	0	0	0	0	0
4175	Jack Set, Translating		** 16		1	0	0	0	0	0	0	0	0	0	0	0
4405	Support, Hoist, Umb. Cble		** 2		1	0	0	0	0	0	0	0	0	0	1/0	0
9118	Test Equip., Comm.		** 1		1	1/0	0	1/1	0	0	0	0	0	0	0	0
9162	Launch Tube Closure Switch		2	0	1	0	0	1/0	0	0	0	0	0	0	0	0
9241	Kit, Refire, Modification		2	0	1	1/0	0	0	0	0	1/1	0	0	0	0	0
1243	Console, Launch Control		2	2	1	0	1/0	0	0	0	0	0	0	0	0	0
1379	Battery Charger Alarm Set		1	0	1	0	1/0	0	0	0	0	0	0	0	0	0
4490	Simul. Set, Elect. Funct.		0	1	1	0	0	0	0	0	0	0	0	0	1/0	0
1302	Tele. Conn. & Switch Set		1	0	1	0	0	1/0	0	0	0	0	0	0	0	0
4018	Adapter Group, Test		** 18		1	0	1/0	0	0	0	0	0	0	0	0	0
3109	Test Set, Alarm Set		** 3		1	0	0	0	0	0	0	0	0	0	1/0	0
3066	Truck, Hand Lift		** 4		1	0	0	0	0	0	0	0	0	0	1/0	0
1289	Power Supply Group, LCF		1	0	1	0	0	1/0	0	0	0	0	0	0	0	0
4539	Test Set, VRSA		** 3		1	0	0	0	0	0	0	0	0	0	0	1/0
* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.																
** No differentiation is made between failures in the GSA vs. the LF & LCF areas.																

\* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.

\*\* No differentiation is made between failures in the CSA vs. the LF & LCF areas.

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MONTHLY SUMMARY - CAT. I & II FAILURE REPORT DATA FROM VANDENBERG AFB - June 26, 1963													
FIG. A	FIGURE A NOMENCLATURE	No. of P.R. A's (Population)	NUMBER OF DISCRETE FAILURE EVENTS				BREAKDOWN-LF/ICF FAILURES SINCE 3-28-3						
			TO DATE	LF & ICF	THIS MO. 3-28-3	THIS WK	Pre-Instal. Rejections	Contamination & Damage	Hard-ware Failure	Retest Good	ACCO Peculiar	Normal Operat-ing to Faulty Instruction	Secondary Failure Events
1318	Plumbing Set, G&C Cooler	2	0	1	0	1/0	0	0	0	0	0	0	0
4150	Test-Repair Set, G&C Cool	0	1	1	0	1/0	0	0	0	0	0	0	0
6306	Instal. Kit, Trainer Test	** 4	1	0	1/0	0	0	0	0	0	0	0	0
6302	Cable Assy. Set, Elect.	** 4	1	0	0	1/0	0	0	0	0	0	0	0
9116	Test Set, Downstage Elect	1	0	1	0	0	0	0	0	0	0	1/0	0
9152	Test Set, Internal Timer	0	1	1	0	0	0	0	0	0	0	1/0	0
9166	Tower Set, Repeat. Ant.	1	0	1	0	0	0	0	0	0	0	1/0	0
1606	Wiring & Cont. Set, Elect	1	0	1	1/0	0	1/0	0	0	0	0	0	0
1608	Door, Vault, Security Pit	1	0	1	1/0	0	1/0	0	0	0	0	0	0
9219	Simulator, Umb. Sig. & Loadg	0	2	1	0	0	0	0	0	0	0	1/0	0
4062	Truck, Targeting	** 1	0	0	0	0	0	0	0	0	0	0	0
4095	SSCEM	** 1	0	0	0	0	0	0	0	0	0	0	0
4282	Hoist, Gearcase Motor	** 2	0	0	0	0	0	0	0	0	0	0	0
4445	Control, Missile Erection	** 2	0	0	0	0	0	0	0	0	0	0	0
4119	Truck, T-F Support	** 1	0	0	0	0	0	0	0	0	0	0	0
1212	Environ. Cont. Sys., LCF	2	0	0	0	0	0	0	0	0	0	0	0
4047	Wrench Assy. Set, Elect.	** 2	0	0	0	0	0	0	0	0	0	0	0
4069	Clamp Set, Adapter Ring	1	0	0	0	0	0	0	0	0	0	0	0
1213	Com'd Status Msg. Proc. Group	2	3	0	0	0	0	0	0	0	0	0	0
1265	Digital Data Group, LCF	2	7	0	0	0	0	0	0	0	0	0	0
* Number of Discrete Failure Events discerned from data received during this month and (//) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.													
** No differentiation is made between failures in the CSA vs. the LF & ICF areas.													

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MONTHLY SUMMARY - CAT. I & II FAILURE REPORT DATA FROM VANDENBERG AFB - June 26, 1963																	
FIG. A	FIGURE A NOMENCLATURE	No. of P/B. A's (Population)	NUMBER OF DISCRETE FAILURE EVENTS					BREAKDOWN-IF/ICF FAILURES SINCE 3-28-3 / THIS MO *									
			TO DATE		Last 3 Mos Since 3-28-3	This Mo. / This Wk	Pre-Install. Rejections	Contamination & Damage	Hard- ware Failure	Retest Good	AGCO Peculiar	Normal Operat- ing	Secondary Failure Events	Primary Failure Events	Incidents Analyzed		
			LF & ICF Only	CSA Only													
1282	Battery Set, Storage, LF		1	0	0	0	0	0	0	0	0	0	0	0	0	0	
1283	M-G Set (3-Unit), LF		1	0	0	0	0	0	0	0	0	0	0	0	0	0	
1288	Battery Set, Storage, LCF		0	1	0	0	0	0	0	0	0	0	0	0	0	0	
9100	Console, Monitor & Cont.		2	0	0	0	0	0	0	0	0	0	0	0	0	0	
9157	Power Supply Set		0	1	0	0	0	0	0	0	0	0	0	0	0	0	
9163	Cable Assy. Set		1	0	0	0	0	0	0	0	0	0	0	0	0	0	
9196	Cable, Ground Launch Area		1	1	0	0	0	0	0	0	0	0	0	0	0	0	
9240	Cabling - Gnd., RF Sys.		2	0	0	0	0	0	0	0	0	0	0	0	0	0	
1300	Handset		1	0	0	0	0	0	0	0	0	0	0	0	0	0	
1303	Repeater, Tele. Set		1	0	0	0	0	0	0	0	0	0	0	0	0	0	
9220	Winch Set, Missile Trans.		** 7	0	0	0	0	0	0	0	0	0	0	0	0	0	
9179	Band Set, Retain Rocket		** 1	0	0	0	0	0	0	0	0	0	0	0	0	0	
1246	Cable Assy. Set, LCF		6	0	0	0	0	0	0	0	0	0	0	0	0	0	
1374	Arrestor Set, Elect. Sur.		2	0	0	0	0	0	0	0	0	0	0	0	0	0	
1338	Comm. Control Console		1	3	0	0	0	0	0	0	0	0	0	0	0	0	
1368	Radio Set Group		0	4	0	0	0	0	0	0	0	0	0	0	0	0	
1214	Cooler, Liquid, G&C		1	0	0	0	0	0	0	0	0	0	0	0	0	0	
1252	Adapter Ring, Mistle Spt.		3	0	0	0	0	0	0	0	0	0	0	0	0	0	
9278	Liquid Cool. Equip, G&C		1	0	0	0	0	0	0	0	0	0	0	0	0	0	
* Number of Discrete Failure Events discerned from data received during this month and ( ) this week. The dates of these events do not necessarily coincide with the designated calendar time increments.																	
** No differentiation is made between failures in the CSA vs. the LF & LCF areas.																	

DEFINITIONS

Number of Figure A's (Population): This is the number (population) of Figure A's installed on which failures would have occurred during the past three months.

Number of Discrete Failure Events: Four columns are provided to separate the number of individual failure events. Failure events in the LF and LCF are separated in two columns from those events in the CSA for which hardware has not yet been delivered to the launch areas for installation. These entries do not indicate the number of actual hardware failures (see following definitions). Two columns also provide, by identifying this month and last three months, for a more current appraisal of Figure A failure events in the launch areas.

Breakdown - LF and LCF Failure Events - Last 3 Months/Current Month:

Pre-Installation Rejections: Items rejected by Contractor and/or USAF Q.C. inspection personnel when received for installation in the LF or LCF or during installation.

Contamination and Damage: This category indicates a failure or impending failure to a piece of equipment which has been exposed to abnormal environment, i.e., shipping, handling, temperature, smoke or soot, water, etc. The equipment itself has qualified to all requirements of quality in manufacturing and testing prior to this contamination or damage.

Events Due to Human Errors Resulting in Hardware Failure or Retest Good: Equipment failure events or operational discrepancies induced by human action during A&CO operations. In all cases, the available A&CO or equipment operating instructions were correct at the time of the failure event. This category includes "good" equipment improperly rejected through human or test equipment fault following which the equipment is returned to service (or to spares inventory) without adjustment or repair.

Events Due to Faulty Instructions - A&CO Peculiar/Normal Operating: These entries reflect those equipment failures or operational discrepancies induced by the application of a misleading, incomplete, or erroneous written procedure. To ascertain those few events which are significant to operational reliability, the number of events caused by faulty equipment operating instructions are separately noted in the "normal operating" column; corrective action applicable to such events consists of revisions to the instructions and corresponding AFTO's.

Secondary Failure Events: An equipment failure event induced by "chain-reaction" to a primary failure event.

Primary Failure Events: A true reliability-significant failure event involving equipment failure(s) which cannot be traced to any cause other than a design error, manufacturing discrepancy, or a part failure. Such failures may occur only after the equipment has been installed and has functioned properly once.

Incompletely Analyzed: Events for which only advanced and incomplete information ("R" copies of failure reports) is available prior to completion of fault isolation testing in the CSA or failure analysis at Boeing-Seattle. Opportunity exists, therefore, when the cause and mode of failure become known, that these events may be assigned to any of the previously discussed categories.

VAFB - CAT. I & II DATA  
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Figure A 1201 - Programmer Group

Contamination & Damage

Voltage Regulator Assembly (A6), P/N 25-22042-51.

Location

LF-2 FR 023851 (4-2-63) - Sand and dirt found in drawer.

Sequential Timer Drawer (A1), P/N 25-22037-55, -68.

The following were failures of the handle shear-pin of the Launch No. 1 Safe Drawer Door:

Location

LF-1 FR 033199 (4-11-63)

LF-5 ER 565923 (4-28-63)

LF-2 FR 033227 (4-15-63) - In addition, combination lock will not open. Failure analysis indicates that the drive finger on the inner spindle was sheared by the application of excessive torque to the external knob.

Primary Failure Events

Launch Missile Status Monitor Drawer (A4), P/N 25-22040-62.

Location

LF-6 FR 023976 (4-25-63) - Failure of module, P/N 25-22702-13, discovered during testing by Figure A 4018 (Test Adapter Group). Failure analysis indicates that the module has an out-of-tolerance time delay (T2-1) circuit caused by out-of-tolerance capacitor C-1, P/N NAA 441-0326-001.

Incompletely Analyzed

Sequential Timer Drawer (A1), P/N 25-22037-55.

Location

LF-6 FR 020498 (4-26-63) - Combination lock is jammed.  
UER 116499



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Figure A 1204 - Support, Missile, Suspension & Alignment System

Pre-Installation Rejections

Location

Unk. ER 266228 (4-30-63) - Support Ring of Missile Base Support (P/N 25-18595-2) has 13 cracks. Suspect improper stress relieving.

Contamination & Damage

Location

Unk. ER 266162 (4-1-63) - Trunnion Blocks (P/N 25-18722-1) and Pendulum Assemblies (P/N 25-25659-1) were rusted.

Unk. ER 266172 (4-2-63)  
ER 266173

Unk. ER 266175 (4-2-63)  
ER 266176

Unk. ER 266174 (4-2-63)  
ER 266177

Inverter Worm Gear Jack (P/N M2024-19) and Leveling Jack Assembly (P/N 25-18728-1) were rusted.

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Figure A 1228 - Status-Command Message Processing Group

Pre-Installation Rejections

Location

LF-2 FR 023942 (4-15-63) - Drawer P/N 8323605-502 cannot be installed in rack. The drawer binds approximately 6 inches before seating in the rack. Drawer to be reworked to RCA specifications.

Events Due to Human Errors Resulting In

Hardware Failures:

Location

\*LF-4 FR 049369 (4-12-63) - Drawer P/N 8323605-502 - Module A34, P/N 8619233-501 returned to RCA.  
\*LF-4 FR 054465 (4-12-63) - Drawer P/N 8323611-502 - Module A10, P/N 8619233-501 returned to RCA.

\* Probable cause - accidental grounding of test jacks.

Primary Failure Events

Location

LF-5 FR 023995 (5-20-63) - Drawer P/N 8318766-503 fails the +28 volt switch position on ACO 4012. Circuit breaker P/N BAAA384 had a broken terminal. Replaced circuit breaker.

Figure A 1243 - Launch Control Console

Pre-Installation Rejections

Location

SLCC #1 FR 054576 (4-22-63) - Drawer P/N 25-24175-6 - No strategic alert and fault indications. Module A2 P/N 25-25540-2 has 3 bad diodes.

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Figure A 1248 - Cable Assembly Set (LF)

Contamination & Damage

Location

LF-2      FR 026526 (5-1-63) - Cable Assembly P/N 21-51001-1050. Broken RFI ring. Replaced cable.

LF-6      FR 023964 (4-20-63) - Cable Assembly P/N 10-20955-9. Corroded connector pins. Connector cleaned.

LF-6      FR 026523 (4-20-63) - Amphenol Connector P/N 201894. Rubber separated from metal in connector. Repaired cable.

Bent or Broken Connector Pins

LF Unk.      FR 033228 (4-5-63) - Cable Assembly P/N 10-20955-9. Replaced

LF-2      FR 062178 (4-6-63) - Cable Assembly P/N 10-20954-11. Replaced

Secondary Failure Events

Location

FR 023941 (4-12-63) - Cable Assembly P/N 206-503-9540-11. Retract cable (Figure A 9160) failed to support umbilical cable during missile launch; umbilical cable broken. Replaced.

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Figure A 1251 - Digital Data Group

Pre-Installation Rejections

Location

- FR 024082 (5-10-63) - W-PB Module P/N 8618968-501 of LEU Drawer  
P/N 8323600-502 failed test due to excessive pulse  
fall time. Returned to vendor.
- FR 024083 (5-10-63) - W-PB Module P/N 8618968-501 of LEU drawer  
P/N 8323600-502 failed test due to excessive pulse  
fall time. Returned to vendor.

Contamination & Damage

Location

- LF-4 FR 024045 (5-7-63) - Drawer P/N 8323591-501 bottom cover  
P/N 8621890-501 has 3 Dzus fastener heads  
too badly burred to use. Cover returned  
to Building 6418 for disposition.

Primary Failure Events

Location

- CSA ER 565005 (4-19-63) - Drawer P/N 8323600-502 failed functional  
test due to noise. A15 Module P/N 8618973-501  
and A29 Module P/N 8618968-501 were replaced.  
A29 module was listed as noisy.

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Figure A 1284 - Launch Facility Power Supply Group

Pre-Installation Rejections

Location

LF-5      FR 062300 (6-6-63) - Rack S/N 0000005, Module P/N 25-25298-18  
not built according to drawing.

Contamination & Damage

Location

LF-6      FR 024059 (5-8-63) - Rack S/N 0000008 - Wing on locking  
mechanism for drawer handle broken  
(P/N BAC110AB1).

Incompletely Analyzed

Location

LF-6      FR 052104 (5-16-63) - Rack S/N 0000008 - No output voltage.

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Figure A 1289 - Launch Control System Power Supply Group

Contamination & Damage

Location

SLCC-2      FR 020443 (5-14-63) - Rack S/N 0000003. Wing on locking mechanism  
for drawer handle broken (P/N BAC L10AB-1).

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Figure A 1302 - Telephone Connecting & Switching Set, AN/GTC-8

Contamination & Damage

Location

CSA      FR 052645 (4-1-63) - During functional test of Flasher, P/N 1270055-1-A, located in Telephone Repeater Drawer, P/N 1274186-501, wrong voltage readings were obtained. Suspect damage to unit occurred when a truck carrying Figure A 1302 over-turned on March 25, 1963.

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Figure A 1318 - Plumbing Set, Guidance & Control, Ground Cooling

Pre-Installation Rejections

Location

LF-1      FR 023977 (4-27-63) - Hose, P/N 29-19250-10. Leak in hose insulation.



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Figure A 1337 - Launch Facility Distribution Box

Pre-Installation Rejections

Location

LF-4 FR 024089 (4-26-63) - Rack, S/N 0000009. Recessed connector pin at J-5 in Safe & Arm Module, P/N 25-31189-1.

Secondary Failure Events

Location

LF-2 FR 033187 (4-19-63) - Safe & Arm switch would not arm. Failure analysis states that switch motor was burned out and that this can only happen when power is applied for prolonged periods of time, when the switch is locked in the "Safe" position. Since power is automatically applied to the motor whenever there is loss of "Safe-Tone", this failure is classified as secondary and was caused by loss of "Safe-Tone" when the switch was locked in the "Safe" position.

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Figure A 1379 - Battery Charger Alarm Set

Pre-Installation Rejections

Location

LF-6      FR 024047 (5-2-63) - Connectors on Battery Charger clocked  
            FR 024048              incorrectly.

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Figure A 1383 - Gear Rack Assembly, Launcher Closure

Pre-Installation Rejections

Location

LF-4 FR 023935 (4-8-63) - Rack P/N 3011Z1. Rack does not fit properly.  
LF-4 FR 024091 (5-1-63) - Rack P/N 3011Z1. Rack does not fit properly.

Human Errors - Hardware Failure:

Location

LF-5 FR 033196 (4-19-63) - Gear P/N 3011Z2-1  
LF-3 FR 038551 (4-11-63)  
LF-2 FR 020448 (5-16-63) - Gear P/N 3011Z2-1

On the above three failures, gear teeth were broken due to mishandling of gearcase motor during operation. Personnel have been instructed to exercise care during equipment operation.

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Figure A 1412 - Voice Reporting Signal Assembly

Pre-Installation Rejections

Location

Unknown FR 026617 (5-1-63) - Tightening of Audio Reproducer cover plate pressed wire bundle against stepper switch causing switch hang-up. Use as is leaving plate loose.

Primary Failure Events

Location

LF-4 FR 026641 (4-22-63) - VRSA P/N 09621000-603A. No response from "B" tape when interrogated from LF-4. Audio Reproducer returned to vendor for repair and updating to -601C configuration. Serviceable module installed as replacement.  
FR 033222 - Audio Reproducer P/N 04621500-601A.

Unknown FR 054556 (4-21-63) - Audio Reproducer P/N 09621500-601A. Broken rewind spring. Replaced by serviceable module and faulty unit returned to vendor for repair.

Unknown FR 054587 (4-30-63) - Audio Reproducer P/N 09621500-601A. Broken tape rewind spring. Audio Reproducer replaced and returned to vendor for repair.

Unknown FR 038560 (5-1-63) - Audio Reproducer P/N 09621500-601A. Inoperative Channels 21-40. Routed to OOAMA for repair.

NOTE: SCP 12 replaces rewind spring with teflon coated spring.  
To date no failures of new spring.

VAFB - CAT. I & II DATA  
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Figure A 1606 - Wiring & Control Set, Electrical

Contamination & Damage

Location

LF-6 FR 075811 (4-15-63) - Selector Switch, P/N 10250-T-15434 (GE),  
damaged when equipment being lowered struck  
switch box.

Figure A 1608 - Door, Vault, Security Pit

Contamination & Damage

Location

LF-5 FR 024087 (4-27-63) - The Vault Lock Mechanism Handle cannot be  
turned to release the lock pins, even though  
the correct combination has been set. Possible  
internal corrosion.

VAFB - CAT. I & II DATA  
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Figure A 3007 - Test Set, Explosive Set Circuitry

Human Error - Retest Good:

Location

Unknown FR 024004 (5-22-63) - Test Set exhibited excessive internal resistance during recalibration functional test. Tolerances were achieved by operating switches several times. Retest o.k.

Primary Failure Events

Location

LF-5 FR 018575 (5-7-63) - Switch (S1) opened on Position #6. Test Set returned to vendor for repair.

VAFB - CAT. I & II DATA  
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Figure A 3066 - Truck, Hand Lift

Primary Failure Events

Location

LF-5      FR 038554 (4-16-63) - Sheffer Corporation Hydraulic Pump  
P/N SHP-25-CX. Hydraulic pump casting  
failed. Casting shows evidence of material  
fatigue. Route to Seattle for evaluation.

VAFB - CAT. I & II DATA  
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Figure A 3092 - Programmer Group Test Set

Contamination & Damage

Location

LF-2      FR 023984 (4-13-63) - Equipment case damaged.

Primary Failure Events

Location

CSA      FR 059366 (4-5-63) - Type "C" Evaluator Module, P/N 25-29108-1.  
UER 178697      "No-Go" occurred during test set self-check.  
It was reported that submodule A-1, P/N  
25-29104-1 has a shorted transistor. Also,  
diode CR7 on Module P/N 25-29108-1 is shorted.



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Figure A 3109 - Test Set, Alarm Set

Primary Failure Events

Location

CSA      FR 024056 (5-1-63) - Transformer T-E, P/N BAC20X1. Primary and secondary windings are shorted. No retest data available.

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Figure A/ACO 4012 - Test Set, Data Analysis Central, AN/GYM-1

Pre-Installation Rejections

Location

SLCC #1 FR 052644 (5-1-63) - A cable clamp is attached to metal conductor instead of to the protective outside insulation of connector P1 on Cable, P/N 8625723-501

Primary Failure Events

Location

SLCC #1 FR 033217 (4-19-63) - Low resistance reading between pins 3 and 15 on module A-140, P/N 8747092-501, indicate a defective diode, P/N 8935922-1. Disposition of module unknown.

CSA FR 068269 (5-13-63) - Test Set would not pass self-verification tests. Module A14, P/N 8624095-501 found defective. (No details given.) Module returned to RCA.

CSA FR 068270 (5-14-63) - Fault lamp illuminates before power switch is in "On" position. Trouble traced to Module A-140, P/N 8747092-501 which has a defective diode, P/N 8935922-1, between pins 4 and 16. Disposition of module unknown.

The above events are considered to be Primary Failure Events based on the latest available information, although subject to reclassification upon receipt of supplemental data.

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Figure A 4018 - Adapter Group, Test

Pre-Installation Rejections

Location

CSA      FR 024076 (5-2-63) - Two sealed spring-driven switches (J-1111 and K-1215 of Test Programming Drawer P/N 25-26842-24) failed A&CO test due to broken switch contacts. Switches were returned to vendor.

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Figure A 4024 - Semi-Trailer, Re-Entry Vehicle, G&C Section

Contamination & Damage

- FR 024084 (4-17-63) - Lock, Eberhard Manufacturing Company P/N 20-5631-1/2, in right rear van door is broken. Lock returned to vendor.
- FR 068275 (5-13-63) - Hoist, Standard Manufacturing Company P/N 2L8JA, badly corroded in all areas due to improper storage permitting exposure to corrosive atmosphere and rain.

Figure A 4031 - Truck, Mechanical Maintenance

Primary Failure Events

- FR 023933 (4-11-63) - Actuator Assembly, Auto Crane P/N 10107, used on Hoist, Auto Crane P/N RAC-110-78MM. Loose wire connector on actuator assembly electric motor caused intermittent operation. Further operation in this condition resulted in extensive damage to the actuator assembly. Unit sent to OQAMA for further investigation and repair. (Ref. PSRR VAFB-394SMS-17R)

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Figure A 4043 - Elevator - Work Cage

Pre-Installation Rejections

Location

Unknown	FR 051272 (3-30-63)	Motor (P/N GS 3502) hits Relay Control Box (P/N GS 4805). This condition was created by the incorporation of KECP 392. (No damage occurred.)
SMSB	FR 023807 (3-30-63)	
LF-6	ER 564761 (4-1-63)	Interphones inoperative. Wired wrong during KECP 392 rework. (2 units)
LF-6	ER 564760 (4-1-63)	
LF-6	ER 590160 (3-28-63)	Micro-switch defective. Occurred during KECP 392 functional test.

Contamination & Damage

Location

Unknown	FR 068259 (4-9-63)	- Power Cable (P/N 25-37283-2) damaged.
Unknown	FR 051273 (4-5-63)	- Control Box (P/N GS 4805) damaged by Motor (P/N GS 3502) as modified per ECP 392.
LF-2	FR 020469 (4-25-63)	- Translating Jack Screw (P/N 25-18605-179) bent.
Unknown	FR 068274 (5-15-63)	- Limit Switch (P/N 1EN42-R) damaged.

Human Errors - Hardware Failure:

Location

LF-5	FR 038549 (4-18-63)	- P/N 10-20862-1, Support Structure damaged.
LF-2	FR 052564 (4-13-63)	- Electrical Plug (P/N GS 3558) broken.

Primary Failure Events

Location

Unknown	FR 023853 (3-29-63)	- Relay (P/N GS 3833) inoperative.
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Incompletely Analyzed

Location

Unknown	ER 591454 (4-10-63)	- Motor (P/N M0403) shorted.
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2-8142-2

REV SYM \_\_\_\_\_

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Figure A 4059 - Transporter - Erector Semi-Trailer

Human Errors - Hardware Failure:

- FR 057589 (4-8-63) - L.H. landing gear brace has cracked end. Attributed to excessive squeezing during installation.
- FR 047065 (4-10-63) - Hydraulic Tube, Bendix Pacific P/N 3059780-4, damaged by the fifth wheel. Personnel are not following T.O. instructions.
- FR 026631 (4-24-63) - First stage right rear tie-down bogie was forced beyond forward travel limit, pulling out rivets on tie-down plate.

Primary Failure Events

- FR 054078 (4-3-63) - Bendix Pacific Valve P/N 3059364-1. Hoist control valve failed and was returned to vendor. Two (2) Pilot Valves (P/N 3058730) were found defective and replaced.
- FR 023865 (4-4-63) - Vickers Motor P/N MF-0620007A. Hoist hydraulic motor has excessive rotary play in drive shaft. Returned to vendor. Repair information not available.
- FR 023874 (4-1-63) - Bendix Pacific Valve P/N 3059728. Four-Way Hoist Control Valve is inoperative. Returned to vendor along with request for failure analysis.
- FR 023873 (4-16-63)
- FR 023875 (4-16-63)
- FR 023835 (5-5-63) - Elbow P/N AN821-16D. Pin hole leak in outer radius of elbow. Elbow was removed and replaced.

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Figure A 4075 - Tractor, Transporter-Erector

Pre-Installation Rejections

FR 068262 (5-10-63) - Hydraulic Return Line, P/N 3058130-4, cut. Attributed to method used in tying down tractor to rail car during shipment.

Contamination & Damage

FR 047035 (5-6-63) - Right Hand Windshield, GMC P/N 2430583, cracked. Replaced.

Human Error - Hardware Failure:

FR 026616 (5-1-63) - Water Supply Line, Cessna P/N 4700836-2, to T-E Container Air Conditioning Unit failed when tractor was removed from container without disconnecting fitting. Installed new hose assembly.

Primary Failure Events

FR 023927 (4-7-63) - Compressor P/N 2430926. Midland Ross air compressor cannot be adjusted. Replaced and returned to vendor. No retest data available.

FR 047064 (4-5-63) - Fifth Wheel Actuator Motor, Delco-Remy P/N 5700080, will not raise container. Commutator and brushes badly worn. Return motor to Delco-Remy for repair.

FR 038558 (4-25-63) Fifth Wheel Actuator Electric Motor, Delco-Remy P/N  
FR 038557 (4-25-63) 5700080, burned out; brushes are damaged. Motor was  
FR 038559 (4-25-63) rebuilt.

Figure A 4078 - Carriage, 1st Stage Rocket Motor

Contamination & Damage

FR 020480 (5-6-63) - Carriage P/N 25-18031-10. Top of lower left hand stringer has gouge over approximately 80% of its length. Return to OOAMA.

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Figure A 4105 - Gearcase Motor

Contamination & Damage

Location

CSA ER 266143 (4-22-63) - Connector (MS 3106E32-6SC) cracked.

Human Error - Hardware Failure:

Location

LF-1 FR 068264 (5-4-63) - Gearcase Motor inoperative. Visual inspection indicates cause due to mishandling.



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Figure A 4115 - Air Conditioning Unit

Primary Failure Events

- FR 068258 (5-2-63) - Indicator Light Check Switch, MS 25068-26, inoperative. Continuity check shows "open" circuit. Discovered during functional test after incorporation of KECP 440. No retest data available.
- FR 026622 (5-4-63) - Starting Solenoid, Onan Electric P/N 307B40, shorted. Solenoid was scrapped. Failure disclosed during rework per KECP 441.
- FR 023989 (5-16-63) - Overpressure Over-ride Switch, MS 24523-30, burned out. Scrapped. Failure disclosed when received for rework per KECP 444.
- FR 026614 (5-1-63) - Oil Pressure Switch, Onan Electric P/N 193B-98, malfunctioned causing air conditioning unit shutdown. Replaced. Occurred during checkout following incorporation of KECP 444/1. No retest data available.
- FR 068273 (5-8-63) - K4 Relay, Onan Electric P/N 9214-5389, failed. Condition existed when received from Air Force for incorporation of KECP 444.

Figure A 4120 - Carriage, 2nd Stage Rocket Motor

Contamination & Damage

- FR 018556 (5-6-63) - Carriage P/N 25-18032-19. Lower surface of both R/H and L/H longitudinal stringers buckled and gouged. Return to OAMA upon completion of present assigned mission.

Figure A 4121 - Carriage, 3rd Stage Rocket Motor

Human Error - Hardware Failure:

- FR 024063 (5-10-63) - Carriage P/N 25-18033-16. Sheet metal cross member badly torn. Damage caused by fork lift. Carriage has stencil warning against use of fork lifts. Arrived at VAFB in this condition. Returned to OAMA.

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Figure A 4129 - Trailer, Ballistic Missile

Primary Failure Events

FR 057586 (4-10-63)	)	Pacific Car & Foundry Winch, P/N 1243075. Winch speed selector handle connection pin is sheared. Winch returned to vendor. No repair data available.
FR 057585 (4-9-63)		

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Figure A 4150 - Test-Repair Set, Cooler, Liquid G&C

The following information has been obtained from the CSA:

Pre-Installation Rejections

FR 023886 (5-2-63) - Sorensen Power Supply Inverter P/N DQI 28/105-1.75M has broken R-7 output resistor; resistor also has shorted center terminal. Inverter was returned to vendor. No retest data available.

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Figure A 4152 - Test Equipment, Electronic Facility

Pre-Installation Rejections

- FR 038555 (4-30-63) - Adapter, Test P/N 25-36127-1. Failure to connect wire from J105 to J2 pin 37. Temporary wire installed and paper work initiated for permanent installation.
- FR 038888 (5-31-63) - Connector J-1, P/N 29-26173-5, incorrectly clocked.

Contamination & Damage

- FR 023864 (4-3-63) - Cable Assembly P/N 25-26173-5. Test probe, P4, broken in shipping. Item returned to vendor.

Incompletely Analyzed

- FR 023990 (5-15-63) - Cable P/N 09627004-601A. Cable will not match mating connector on Figure A 4152. Held for design liaison engineering investigation.

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Figure A 4175 - Translating Jack Set

Primary Failure Events

FR 038547 (4-17-63) - Hydraulic Hand Pump, P/N 29-21668-1, leaks externally around low pressure "V" ring seals. High pressure seal will not hold pressure. ECP 663 is being processed to correct these deficiencies.

Figure A 4187 - Alarm Set, Missile Storage & Transit

Primary Failure Events

FR 033213 (4-17-63) Alarm Set, United Electrodynamics P/N 16191-1, will not self-check and fails to provide proper monitoring of missile environmental conditions. ECP 341 proposes design revisions as required to improve the monitoring capability of this equipment.  
FR 033221  
FR 024050 (5-1-63)  
FR 023985

Figure A 4188 - Jack Set, Leveling

Contamination & Damage

\*\* FR 023987 (3-\*-63) - Jack Set P/N 25-31030-1. Jack guide column pins broken on two jacks, S/N's 0000002 and 0000003. The two jack sets are awaiting repair.

\* Unknown

\*\* Two Events

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Figure A 4252 - Code Inserter-Verifier Set

Pre-Installation Rejections

FR 033190 (4-17-63) - Verifier Unit P/N 25-32993-1 was loose and out of mechanical adjustment. It was tightened and re-adjusted.

Primary Failure Events

FR 033236 (4-7-63) - Reader Drawer P/N 25-32993 gives "No-Go". Sent to OOAMA for repair. No retest data available.

FR 023833 (4-15-63) - Command Signals Decoder P/N 25-32987-1 will not lock in last position. Sent to OOAMA for repair. No retest data available.

FR 023820 (4-16-63) - Microswitch in Electrical Cabinet Drawer P/N 25-32846 sticks in closed position. Switch repaired in place.

FR 023831 (5-2-63) - Printed Circuit Card P/N 25-34026-1 malfunctions due to defective diode. Power Supply Control Drawer routed to electrical maintenance area for repairs.

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Figure A 4405 - Support, Hoist, Umbilical Cable

Primary Failure Events

FR 068265 (4-27-63) - Hoist Support, P/N 25-27451-1. Visual inspection after proof load test revealed cracks in weld areas. Cracks were ground out and rewelded.

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Figure A 4490 - Simulator Set, Electrical Function Missile & Launch

Primary Failure Events

Location

Unknown      FR 023860 (4-2-63) - 28V DC Reg. Module P/N 25-34421-1, Q3 (2N1174) is defective, making it impossible to energize the launch simulator by pressing power on button. Regulator returned to vendor. No retest data available.



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Figure A 4539 - Voice Reporting Signal Assembly Test Set

Incompletely Analyzed

Location

CSA            FR 068268 (5-15-63) - Cable P/N 09627006-601A. Cable will not  
match mating connector on Figure A 4152.  
Held for liaison engineering investigation  
and MRB action.

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Figure A 6005 - Conduit Support Set, Raceway

Contamination & Damage

Missile S/N

63-167 FR 023923 (4-8-63) - Raceway Cover P/N 25-27215-11 - Avcoat  
cracked.

63-168 FR 026636 (4-5-63) - Raceway Cover P/N 25-30103-40 - Avcoat  
cracked.

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Figure A 6301 - Instrumentation Group, Trainer Test

Pre-Installation Rejections

Missile S/N

GTM 021	UER 024075 (5-22-63)	- Transmitter (P/N 10-20944-1) output erratic. Returned to vendor.
Unk.	FR 024009 (5-22-63)	- Transmitter (P/N 10-20944-1) modulates inversely. Returned to vendor.
63-182	FR 060958 (5-22-63)	- The Command Destruct Receiver (P/N 25-37501-8) will not destruct. Returned to vendor.
FTM 534	FR 023906 (4-3-63)	- PCM/FM Transmitter P/N 10-20944-1, Transmitter had a low output during telemetering check. Transmitter replaced.
FTM 008	FR 023971 (4-19-63)	- PCM/FM Transmitter P/N 10-20944-1, transmitter dead during "G" tape test. Returned to vendor.
Unk.	FR 023883 (4-29-63)	- CTLI Wafer P/N 25-25402-35, CTLI section failed time-delay reset, separation and destruct event checks. Replaced CTLI section.
FTM 595	FR 020499 (4-27-63)	- CTLI Wafer P/N 25-25402-35, computer failed during checkout of CTLI section. CTLI section removed and replaced.
FTM 534	FR 023929 (4-5-63)	- PCM/FM Transmitter P/N 10-20944-1, Transmitter had excessive noise during CTLI checkout. Returned to vendor.

Contamination & Damage

Missile S/N

Unk.	FR 023928 (4-9-63)	- Cable Assembly (Autonetics) P/N 31279-315 - Worn cable insulation on CTLI section cable. Received in this condition. Returned to vendor.
Unk.	FR 023975 (4-25-63)	- Cable Assembly (Autonetics) P/N 31278-315, grommet torn; bent connector pins. Returned to vendor.

Figure A 6301 (Cont'd)  
Page 2 of 2

Contamination & Damage (Cont'd)

Missile S/N

Unk. FR 023879 (4-25-63) - CTLI Wafer P/N 25-25402-35, bent connector pin on digital data programmer. Replaced wafer.

FTM 021 FR 040125 (5-14-63) - CTLI Wafer P/N 25-25402-11; cable clamp twisted. Replaced clamp.

Human Errors - Retest Good

Missile S/N

Unk. FR 052634 (5-3-63) - CTLI Wafer P/N 25-25402-35, incorrect digital and analog readings. Retested good.

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Figure 6302 - Cable Assembly Set, Electrical

Contamination & Damage

Missile S/N

63-006 FR 040251 (3-28-63) - Cable Assembly, P/N 25-29542-1, connector broken. Replaced cable assembly.

Figure A 6304 - Conduit Support Set, Raceway

Pre-Installation Rejections

Missile S/N

Mislocated Holes

FTM 694	FR 033202 (4-16-63)	- Raceway Cover P/N 25-35416-38
GTM 021	FR 023918 (4-8-63)	- Raceway Cover P/N 25-37064-1
GTM 021	FR 023945 (4-8-63)	- Raceway Cover P/N 25-37067-1
GTM 021	FR 023944 (4-8-63)	- Raceway Cover P/N 25-37065-1
GTM 021	FR 023900 (3-28-63)	- Seal Plate P/N 25-37450-1

Contamination & Damage

63-167	FR 023920 (4-8-63)	- Raceway Cover P/N 25-30103-7 - Avcoat separation.
Unk.	FR 023921 (4-8-63)	- Raceway Cover P/N 25-30101-46 - Avcoat cracked.
FTM 585	FR 047066 (4-16-63)	- Raceway Cover P/N 25-30100-21 - Avcoat cracked.
FTM 595	FR 075816 (4-24-63)	- Raceway Cap P/N 25-30103-40, cap warped.
FTM 595	FR 075817 (4-24-63)	- Raceway Cap P/N 25-30140-16 - Avcoat separation.
FTM 595	FR 075815 (4-24-63)	- Raceway Cap P/N 25-30951-1 - Avcoat cracked.
FTM 604	FR 023821 (5-4-63)	- Raceway Cover P/N 25-30103-40 - Avcoat separation.
FTM 604	FR 022939 (5-4-63)	- Raceway Cover P/N 25-30103-40 - Avcoat separation.
63-003	FR 033135 (5-22-63)	- Avcoat cracked while torquing down Raceway Cover P/N 25-30101-46.

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Figure A 6306 - Installation Kit, Trainer Test Group

Pre-Installation Rejections

Missile S/N or Location

Unk. FR 023911 (4-6-63) - Seal plate P/N 29-25426-2 - Mislocated  
holes.

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Figure A 9027 - Actuating & Locking Mechanism, Launcher Closure

Pre-Installation Rejections

Location

LF-5      ER 565896 (4-25-63) - Lock mechanism did not extend to full up position. Removal of 1/4" shim corrected problem.

LF-1      FR 013141 (5-7-63) - Multiplying linkage piston binds on housing. Tolerances too close.

Contamination & Damage

Location

LF-1      FR 024085 (4-20-63) - Cable (P/N 29-18553-9) damaged during launch.

Human Errors - Hardware Failure

Location

LF-4      FR 033193 (4-19-63) - Lock plunger bolt broken.

Primary Failure Events

Location

LF-1      FR 024080 (5-6-63) - Gas Generator (P/N 2100-22-25) leaking.

LF-1      FR 023988 (5-14-63) - Lock Mechanism (P/N 25-23714-4) did not extend to full up position. Spring appears to have weakened.

CSA Reports

ER 266233 (4-29-63) - Sheave Support Pin (P/N 29-18555) dropped which resulted in damage.

ER 266221 (5-5-63) - Sheave Bearing (P/N 29-18523-1) damaged.

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Figure A 9100 - Console, Monitor & Control, CTLI

Contamination & Damage

Location

HLCC E564809 (3-5-63) P/N 29-24535-4 Panel S/N 0007 - Dirty switch -  
cleaned and reinstalled.

Primary Failure Events

Location

HLCC E586698 (1-2-63) P/N 29-24535-4 Panel S/N 0002 - Ground power  
could not be terminated.



Incompletely Analyzed (Cont'd)

Location

LF-2	E564564 (3-25-63) - P/N 25-14875-21 Control Set would not pass para. 2.3.5.18 of D2-10811. Retested - results unknown.
LF-1	F033247 (4-16-63) - 86.004 Monitor S/N 2D2453 - Returned to vendor for analysis.
LF-4	F052106 (4-1-63) - 86.004 Monitor S/N 2D1507 under investigation.
LF-4	F052185 (4-1-63) - 86.004 Monitor S/N 2D 2457 under investigation.

The following failure events took place in the CSA:

Pre-Installation Rejection

F049290 (1-18-63) E509448	- GF 2555 Filter S/N 0002 shorted due to miswiring in 25-14875-1 Power Supply S/N 0000001
F052556 (3-16-63) E590472	- CB02R-2811S Receptacle with burned pins. Used on 25-28513-10 Relay Assembly S/N 0004.

Contamination & Damage

F059281 (3-8-63) - GF 2564 Filter received from PCA with stud broken off.

Primary Failure Events

Location

LF-1	E461216 (3-14-63) - P/N 25-28511-16 Drawer S/N 0006 faulty. Replaced GF 2995 filter.
LF-6	F049396 (3-13-63) - P/N 25-28511-16 Drawer S/N 0006 faulty. E564835 Replaced GF 2095 filter.
LF-6	F075761 (2-23-63) - P/N 25-28513-10 Drawer S/N 0002 E582418 Hazardous current monitor high. Replaced E501557 GF 2555 filter
LF-5	F074700 (2-9-63) - 86.004 Battery Monitor S/N 2B151 would not perform per para. 2.3.28 of D2-10811
LF-6	F060961 (5-23-63) - GF 2948 Filter - open between pins 3 & 4.
LF-1	F049400 (3-16-63) - P/N 25-34167-1 Power Supply S/N 0004 fails E590644 hazardous current - replaced feed thru.
LF-6	F032485 (5-22-63) - GF 2095 Filter - internal short
LF-1	F026640 (4-16-63) - 86.004 Monitor drifts - analysis showed cold solder joint.
LF-5	F023815 (4-6-63) - 9227-5626 Power Relay - will not actuate when power is applied.
LF-6	F047650 (2-23-63) - 86.004 Monitor remains activated after signal F049332 is removed.
LF-2	F023924 (3-29-63) - P/N 25-28512-11 Power Supply failed high E564713 voltage test.

Incompletely Analyzed

Location

LF-4	E582463 (4-1-63) - P/N 25-14875-21 Control Set fails to meet requirements per para. 2.3.28 of D2-10811.
LF-4	F049324 (2-18-63) - 10-20804-3 Monitor S/N 1078 under investigation. E509891
LF-6	F060962 (5-27-63) - CL5045-1 Battery shorted during recharge.

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Figure A 9112 - Power Control Set, CTLI

Pre-Installation Rejections

Location

LF-2 E564709 (3-29-63) - R-24 & R-25 adjusted to give proper lamp illumination.

LF-1 F022937 (4-26-63) - P/N 25-14875-21 Control Set S/N 0000006 leaks air (to be corrected by ECP 647)

LF-6 F049330 (3-1-63) - P/N 25-14875-21 Control Set S/N 0000001 leaks air (to be corrected by ECP 647)

LF-5 F075826 (2-19-63) - P/N 25-14875-21 Control Set S/N 0000002 leaks air (to be corrected by ECP 647)

Contamination & Damage

Location

LF-4 E519753 (3-29-63) - Wire #394 on TB #4 pinched by a clamp causing a short (part of 25-14875-21 control set)

LF-4 F057524 (1-2-63) - GF 2095 Filter damaged during installation in 25-28511-13 Drawer S/N 0002

Human Error - Retest Good

Location

LF-3 F068536 (1-3-63) - P/N 25-34167-1 Power Supply S/N 0002 failed hazardous current test - retested good.

LF-5 F074581 (2-23-63) - P/N 25-34167-1 Power Supply S/N 0006 failed hazardous current test - retested good.

Secondary Failure Event

Location

LF-1 F049955 (3-12-63) - P/N 25-14875-21, S/N 0000004 Control Set damaged when faulty cable was used.

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Figure A 9116 - Test Set, Downstage Electrical System, CTLI

Primary Failure Events

Location

LF-2      FO33204 (4-16-64) - P/N 2-1905-16-125C Select Switch has loose  
FO24054      rivits causing intermittent continuity.

Figure A 9118 - Test Equipment, Communications  
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Contamination & Damage

ER 564747 (4-4-63) - Center pin of Co-ax #1 in CTLI Van J-Box is bent.  
Replaced center pin.

Figure A 9123 - Test Set, Command Destruct  
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The following failure events took place in the SMSA:

Primary Failure Events

- FO23852 (4-7-63) - Signal Gen. P/N 29-21691-1 - S/N 0002 Signal generator cannot be zeroed. Routed to PMEL for repair.
- FO23867 (4-6-63) - Signal Gen. P/N 29-21691-1 - S/N 0009 Zero set needle froze on signal generator. Routed to PMEL for repair.
- FO23869 (4-6-63) - Signal Gen. P/N 29-21691-1 - S/N 0003 Signal generator cannot be zeroed. Routed to PMEL for repair.
- TR2-8505-145 (5-1-63) - Signal Gen. P/N 29-21691-1 - Signal generator cannot be zeroed. Routed to PMEL for repair.

VAFB - CAT. I & II DATA

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Figure A 9152 - Test Set, Internal Timer, CTLI

The following failure event took place in the DPIF:

Primary Failure Event

FO24072 (5-13-63) - Unable to get proper lamp indications. Replaced  
FO24074 3-180321 circuit card.

Figure A 9157 - Power Supply Set, Monitor & Control, CTLI

The following failure events took place in the LCSB:

Primary Failure Event

FO49325 (2-20-63) - TJU6100 Capacitor ruptured and was replaced.  
FO54469

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Figure A 9160 - Retractor, G&C Umbilical

Pre-Installation Rejections

Location

LF-4 FR 033194 (4-19-63) - Teflon Bushing (P/N 29-27436-1) frozen.  
LF-2 FR 020445 (5-15-63) - Actuator (P/N 2150-15) take-up reel rewinds erratically.

Contamination & Damage

Location

LF-5 FR 013142 (5-8-63) - Actuator (P/N 2150-15) burned during launch.

Human Errors - Hardware Failure

LF-2 FR 033197 (4-22-63) - Monitor Kit (P/N 90013-1) pins damaged.

Faulty Instructions - A&CO Peculiar

LF-6 FR 020442 (5-11-63) - Actuator Cable (P/N 2165-1) kinked. Report stated that personnel were following written procedures at the time of failure.

Primary Failure Events

LF-5 FR 033192 (4-11-63) - Actuator Cable (P/N 2165-1) failed during FTM 534 launch.  
Unk. FR 038356 (4-29-63) - Broken strands on Actuator Cable (P/N 2165-1).

VAFB - CAT. I & II DATA

Mar. 28 thru June 26, 1963

Figure A 9162 - Launch Tube Closure Switch, CTLI

Contamination & Damage

Location

LF-1 FR 024079 (4-28-63) - Switch (P/N 25-27774-11) threaded coupling broken.

Figure A 9163 - Cable Assembly Set, Launcher Protection

Jan. 1 thru June 26, 1963

Contamination & Damage

Location

LF-2 FO49920 (2-4-63) - P/N 25-32849-6 Cable Assembly damaged during operation of Silo Lid.

Figure A 9164 - Power Supply Group

Jan. 1 thru June 26, 1963

The following failure events took place in the CSA:

Contamination & Damage

FO62301 (6-7-63) - BAC L10AB1 Handle has locking thumb latch broken.

Incompletely Analyzed

FO62253 (5-31-63) - P/N 29-25357-750 Resistor Board - R-4 Resistor shows signs of overheating.

Figure A 9166 - Tower Set, Repeater Antenna, CTLI

Mar. 28 thru June 26, 1963

Primary Failure Events

Location

LF-5 FO40254 (3-28-63) - Motor P/N MB4091A - Motor for flashing unit inoperable. Removed and replaced motor. Repair information not available.

VAFB - CAT. I & II DATA

Mar. 28 thru June 26, 1963

Figure A 9186 - Test Set, PCM/FM T/M, CTLI

Human Error - Hardware Failure

FO18557 (5-9-63) - Latches broken and springs bent on datarite magazine.

Primary Failure Events

FO20441 (5-20-63) - GFD-3 Discriminator periodically breaks into oscillation.

FO68251 (5-13-63) - RAT 501S12G1 Input Amp Card S/N 0001RC loads down input circuit.

Figure A 9196 - Cabling, Ground, Launch Area, CTLI

Contamination & Damage

Location

LF-1 FO19376 (3-16-63) - Water entered the distribution box (P/N 25-32669-17) when conduit leaked.

The following failure event took place in the CSA:

Primary Failure Event

B624947 (5-16-63) - P/N 25-32526-3 Cable has cold solder joint.



VAFB - CAT. I & II DATA

Mar. 28 thru June 26, 1963

Figure A 9201 - Repeater Antenna & Amplifier C/D

Primary Failure Events

Location

- LF-2 E514825 (4-22-63) - Amplifier, P/N 10-20985-2 S/N Unk., causes fuses to blow.
- LF-5 F020470 (4-25-63) - Gage P/N 3500 will not zero.

Incompletely Analyzed

Location

- LF-3 E581826 (4-20-63) - Amplifier (P/N 10-20985) T/M Signal being received shows excessive noise.

VAFB - CAT. I & II DATA

Jan. 1 thru June 26, 1963

Figure A 9219 - Simulator, Umbilical Signals & Loads, CTLI

The following failure events took place in the LCSB:

Contamination & Damage

F028673 (1-21-63) - Key is broken off GM 100096 connector.

Primary Failure Event

F033208 (4-16-63) - BAC 530BH2-2 Microswitch is discontinuous.

VAFB - CMT. I & II DATA

Jan. 1 thru June 26, 1963

Figure A 9233 - Power Supply Set C/D & TM CTLI

Pre-Installation Rejections

Location

LF-6	FO75891 (3-1-63)	Air leaks around joints in P/N 25-14871-30
LF-5	FO75804 (2-19-63)	Power Supply - to be corrected by ECP 647
LF-1	FO20475 (4-26-63)	(S/N's 0000001, 0000002 & 0000006)
LF-5	FO49960 (3-14-63) - P/N 25-28521-21 S/N 0000004 has no output due to miswiring.	

Contamination & Damage

Location

LF-6	FO54584 (3-8-63)	- P/N 25-34183-1 S/N 0000016 Power Supply has damaged case - caused by removal methods.
	E590327	
	FO75802	
Unk.	FO52087 (1-23-63)	- P/N 25-34183-1 S/N 0000008 Power Supply case ripped and dented.

Human Error - Hardware

Location

Unk.	FO61013 (2-4-63)	- Short in DC circuitry of 25-34183-1 Power Supply S/N 0000014 due to panel movement after drawer removal.
Unk.	FO54143 (2-6-63)	- 2N-1132 Transistor damaged during trouble shooting of 25-34183-1 Power Supply S/N 0000016.

Secondary Failure Events

Location

Unk.	FO52600 (3-18-63)	- 2N1132 Transistor destroyed when filter shorted to amplifier of 25-34183-1 S/N 0000018 Power Supply.
------	-------------------	--

Secondary Failure Events (Cont'd)

Location

- LF-1 FO49958 (3-12-63) - P/N 25-34183-1 S/N's 0000004 & 0000017 -  
FO38526 Power supplies were damaged by shorted cable.  
FO38525  
E590483  
E590481
- LF-1 FO23816 (4-12-63) - P/N 25-34440-1 Blower Assembly overheated  
due to timer failure (FO23857)

Primary Failure Events

- LF-6 FO75874 (3-2-63) - Short between J-2 and ground - replaced Q8 &  
E590477 Q9 transistors of 25-34183-1 S/N 0000007 Power  
E586902 Supply.
- LF-6 FO75802 (3-1-63) - P/N 25-34183-1 S/N 0000016 Power Supply started  
E590476 smoking during run of para. 6.12.1 of D2-9835  
E582091 Q7, Q8 transistors replaced.  
E501012
- Unk. FO75798 (2-27-63) - Insufficient clearance and/or insulation  
between filter and magazine. Amp. in 25-34183-1  
Power Supply S/N 0000018 - causing short  
between. To be corrected by ECP 647
- LF-5 FO74652 (2-14-63) - BT3830B-17 Blower - warped housing causing  
blower to stall.  
FAR M-074652
- LF-5 FO74647 (2-15-63) - BT3830B-17 Blower - misaligned bearing causing  
blower to stall. FAR M-074647.
- LF-2 FO66237 (1-14-63) - P/N 25-34183-1 Power Supply S/N 0000020 has low  
FO54146 output voltage. Zenor diode IN429 replaced.
- LF-5 FO49961 (3-15-63) - P/N 25-34183-1 Power Supply S/N 0000008 will  
FO23802 not regulate. 16-272 Mag. amp and 2N553  
E582197 transistor were replaced.

Primary Failure Events (Cont'd)

Location

LF-2	F049910 (1-15-63)	- P/N 25-34183-1 Power Supply S/N 0000013 will not regulate - BAC R14X-103 trimpot (R22) replaced.
LF-2	F049317 (2-4-63)	- P/N 25-34183-1 Power Supply S/N 0000015 remote voltage regulation low - replaced 2N652 transistor (Q3)
LF-1	F038568 (3-20-63) E590584	- 2N 1157A Transistor (Q8) in P/N 25-34183-1 Power Supply S/N 0000019 shorted.
LF-6	F024043 (5-10-63)	- P/N 25-34183-1 Power Supply S/N 0000014 excessive ripple - use as is.
LF-5	F023980 (4-3-63) F023981	- P/N 25-34183-1 Power Supply S/N 0000013 - intermittent fault trip. 16-272 mag. amp. replaced.
LF-1	F023857 (4-12-63)	- Timer (P/N Unk) out of adjustment causing blower to overheat (timer is part of P/N 25-28521-21 relay assembly S/N 0001)
LF-5	E590620 (3-21-63)	- P/N 25-34183-1 Power Supply S/N 0000013 has excessive ripple - removed and adjusted.
LF Unk.	F075758 (2-19-63)	- P/N 25-34183-1 Power Supply S/N 0000018 output out-of-tolerance. IN2033 Zenor Diode replaced.
LF-5	E461219 (3-21-63)	- P/N 25-34183-1 Power Supply S/N 0000010 has excessive ripple - removed and adjusted.

Incompletely Analyzed

Location

Unk.	F052547 (3-17-63)	- GF 2524 R.F. Filter bulging and terminals burned.
LF-3	F042817 (1-9-63)	- Remote sensing circuitry faulty (P/N 25-34183-1 Power Supply S/N 0000008)
LF-4	E581790 (2-11-63)	- P/N 25-14871-12 S/N 0000003 Power Supply has out-of-tolerance output.

The following failure events took place in the CSA:

Pre-Installation

F075797 (2-27-63) Insufficient clearance between filter and mag.  
F075796 (2-27-63) amplifier in the 25-34183-1 power supplies. Condition  
F074556 (2-25-63) to be corrected by ECP 647 (S/N's 0000004; 0000008;  
F052609 (3-24-63) 0000013; 0000015; 0000017; and 0000019)  
F052551 (3-17-63)  
F052549 (3-17-63)  
  
E284284 (3-13-63) - P/N 25-28521-21 Power Supply - S/N 0002 miswired.

Contamination & Damage

E528897 (4-20-63) - MS-3102E-18-11P Connector has bent shell.

Human Error - Hardware Failure

F033220 (3-16-63) - 1433 feed thru in P/N 29-28443 Filter Assembly - damaged during rework.

Human Error - Retest Good

E501595 (2-25-63) - 5RJ-450LW-SCR - Relay (K106) in the P/N 25-28514 Relay Assembly - rejected and retested good.

Primary Failure Events

E590511 (3-19-63) - 25-34183-1 Power Supply S/N 0000020 will not regulate.  
E590535 Zenor diode and 16-272 mag. amp. replaced.  
F049968  
F026628 (4-28-63) - 25-34183-1 Power Supply S/N 0000017 will not regulate at 105 vac - 16-272 mag. amp. replaced.  
  
F052641 (1-25-63) - Open R14X-103 Trimpot in P/N 25-34183-1 Power Supply S/N 0000013

Figure A 9233 (Cont'd)  
Page 5 of 5

Incompletely Analyzed

- E565013 (4-20-63) - 2N553 Transistor is erratic (on P/N 25-34183-1 Power Supply S/N 0000016)
- E519788 (3-26-63) - Shorted 2N553 Transistor (on P/N 25-34183-1 Power Supply S/N 0000010)

VAFB - CAT. I II DATA

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Figure A 9240 - Cable-Ground, R System Launch Area CTLI

Pre-Installation Rejection

Location

LF-5 E282133 (2-14-63) - Connector P20 (J-Box P/N 25-32269-18)  
has damaged pin.

LF-5 E581842 (2-14-63) - Connectors P26 & P27 (J-Box P/N 25-32269-18)  
have pressure leaks.

Figure A 9241 - Refire Modification Kit

Mar. 28 thru June 26, 1963

Faulty Instructions - A&CO Peculiar

Location

LF-6 FR 033229 (5-20-63) - Cables (P/N 25-34890-4 & -5) smashed  
during auto-collimator guillotine  
functional test. Cables were installed  
correctly.

Figure A 9245 - Repeater System, C-Band Beacon, CTLI

Mar. 28 thru June 26, 1963

Contamination & Damage

Location

LF-5 F023847 (4-12-63) - Connector P/N 29-25791-1 - Damaged connector  
S/N 0000005 (post launch)

Primary Failure Events

LF-1 F052183 (4-29-63) - Feeder Assy. P/N F6C-J1 S/N 5390-5910 -  
Feeder horn assy. leaks.

LF-5 F033249 (4-19-63) - Antenna Assy. P/N 25-17702-7 S/N 0000005 -  
High V.S.W.R. Remove and replaced antenna.

LF-6 F052184 (4-24-63) - Feeder Assy. leaks. Remove and replaced  
feeder assembly, P/N F6C-J1 - S/N Unk.

LF-5 F024042 (5-8-63) - Press. Cable P/N 29-25791-1 - Cable leaks.  
S/N 0000005



THE **BOEING** COMPANY

2-5142

NUMBER D2-5286-41

SECTION TITLE MANUFACTURING (IN-PLANT SEATTLE)

FAILURE REPORT DATA for JUNE, 1963

PREPARED BY Reliability Evaluation Group 2-1772-3

SUPERVISED BY R. G. Bush 7/17/63  
R. G. Bush

APPROVED BY R. J. Delaney  
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APPROVED BY F. L. Curtis 7/17/63  
F. L. Curtis (DATE)

U3 / 0000 REV. 2/63

REV. SYM \_\_\_\_\_

VOL. NO.	--	OF	--
SECT.	F	PAGE	1 of 20

REV SYM \_\_\_\_\_

DD FORM

NO. D2-5286-41

SECT. F PAGE 2

MONTHLY SUMMARY - MANUFACTURING (IN-PLANT SEATTLE) FAILURE REPORT DATA, JUNE 26, 1963													
FIG. A	NO. OF DISCRETE FAILURE EVENTS SINCE 3-28-3 / THIS MONTH												
	Total Since Jan. 1, 1963	NO. OF DISCRETE FAILURE EVENTS			Events Due to			Test Errors Resulting in-			Secondary Failures		
		Last 3 Mo's	Since 3 Mo's	Initial Failure	Rejection	Contamination	Damage	Hardware Failure	Retest	Good	Events Due to	Primary Failures	Incidentally Analyzed
1201	57	16/4	13/3	0	0	0	0	0	1/1	0	0	0	2/0
3092	46	19/6	3/0	0	0	0	0	0	0	0	0	16/6	0
4523	37	6/1	2/0	0	1/0	0	0	0	1/0	0	0	2/1	0
6301	30	23/6	0	3/0	0	0	0	0	1/1	0	0	19/5	0
1284	25	13/4	12/4	0	0	0	0	0	1/0	0	0	0	0
1337	25	19/4	16/4	1/0	0	0	0	0	0	0	0	2/0	0
4491	16	5/1	2/0	0	0	0	0	0	0	0	0	2/0	1/1
1379	12	7/2	7/2	0	0	0	0	0	0	0	0	0	0
1243	12	6/2	6/2	0	0	0	0	0	0	0	0	0	0
3007	11	8/5	5/2	2/2	0	0	0	0	1/1	0	0	0	0
4115	11	5/1	3/1	0	0	0	0	0	0	0	0	2/0	0
4187	10	0	0	0	0	0	0	0	0	0	0	0	0
1214	4	0	0	0	0	0	0	0	0	0	0	0	0
1289	3	3/2	3/2	0	0	0	0	0	0	0	0	0	0
9233	2	2/0	2/0	0	0	0	0	0	0	0	0	0	0
9302	2	1/0	1/0	0	0	0	0	0	0	0	0	0	0
9100	1	1/0	1/0	0	0	0	0	0	0	0	0	0	0
9164	1	1/0	1/0	0	0	0	0	0	0	0	0	0	0

\* Number of Discrete Failure Events discerned from data received during this month. The dates of these events do not necessarily coincide with the designated calendar time increments.

DEFINITIONSSeattle (In-Plant) Manufacturing Failure Data

Failure Events Since ( - - ) - Two columns provide for trend indication of all discrete failure events encountered during functional and acceptance tests of complete Figure A equipment. The first column indicates all failures since January 1, 1963; failure events prior to January are summarized in D2-5286-37. The second column indicates the number of failure events during the past three months/one month.

Initial Failure or Rejection - Equipment failures due to the inadvertent use of a weak part which fails in the initial operation of the Figure A equipment, fabrication errors, or defective vendor-supplied components not previously detected by planned lower-level functional tests.

Contamination and Damage - Equipment failures due to prior exposure of the equipment to improper packaging for shipment, mishandling, or other environmental conditions beyond the design limits of the equipment.

Test Errors Resulting in Hardware Failure - Failures induced by erroneous application of properly written instructions and/or test equipment or the use of improper test equipment. In all such events, reasonable evidence is available that correct and adequate written test instructions and test equipment were available to the test personnel responsible for the error.

Test Errors Resulting in Retest Good - Equipment "failures" improperly diagnosed by the test personnel wherein the replaced equipment was retested and found to be serviceable without adjustment and/or repair. As in errors resulting in hardware failure, correct and adequate instructions were available to the test personnel.

Events Due to Faulty Instructions - Failures caused by the application of incomplete or erroneous instructions.

Secondary Failures - Equipment failures induced by a primary failure of a separate item of equipment.

Primary Failures - Equipment failures due to unreliability of the equipment itself and which cannot be traced to any cause other than a design error or manufacturing discrepancy. Such failures may occur only after the equipment has been properly assembled and operated satisfactorily at least once.

Incompletely Analyzed - Failure events for which only advanced or incomplete information is available prior to completion of fault isolation testing and/or failed part analysis to determine cause of failure. When the cause and mode of failure become known, the event will be reclassified in the subsequent report.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 28, 1963

Figure A 1201 - Programmer Group

Initial Failure or Rejection

The following discrepancies were due to wiring errors:

UER 054352 (4-26-63) - Rack S/N 0000241

UER 060664 (4-18-63) - Rack S/N 0000247

UER 060596 (4-15-63) - Rack S/N 0000223

Additional discrepancies:

UER 054408 (4-25-63) - Rack S/N 0000233. Circuit Card not seated properly.

UER 092895 (5-15-63) - Rack S/N 0000033, Drawer 25-22042-49. Switch  
(P/N BAC S30BF2) contacts not making contact when  
button is depressed.

The following discrepancies were reported as having test responses out of  
specification. No further information is available as to the detailed  
component(s) involved or the true cause of the unacceptable test response.

ER 656192 (4-23-63) - Rack S/N 0000240, Drawer 25-22038-54, Module 25-22054-1.

UER 154825 (5-16-63) - Rack S/N 0000037, Drawer 25-22038-54, Module 25-22756-1.  
UER's 154919, 154834

ER 546279 (4-11-63) - Rack S/N 0000222, Drawer 25-22038-54, Module 25-22054-1.  
UER 060572

UER 060619 (4-17-63) - Rack S/N 0000230, Drawer 25-22038-54, Module 25-22054-1.

UER 092714 (6-6-63) - Rack S/N 0000315, Drawer 25-22039-59, Module 25-22713-6.

ER 651509 (6-13-63) - Rack S/N 0000279, Drawer 25-22040-66, Module 25-37102-1.

UER 092719 (6-11-63) - Rack S/N 0000263, Drawer 25-22038-51. No retest data.  
UER's 092723, 092724 - Drawer 25-22042-51. Drawer retested good.

The following discrepancy occurred on a rack level test, the serial number of  
the rack not presently being known. Present indications are that this discre-  
pancy occurred during the initial functional test of the equipment. If, when  
the serial number becomes known, this discrepancy proves to be other than an  
initial failure or rejection, the classification will be changed accordingly.

ER 656262 (4-11-63) - Rack S/N unknown, Drawer 25-22040-63, Module 10-20818.  
Test response out-of-specification.

Figure A 1201 (cont'd)

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Test Errors - Retest Good:

UER 092723 (6-11-63) - Rack S/N 0000263, Drawer 25-22042-51.  
UER 092724

Incompletely Analyzed

UER 060581 (4-12-63) - Rack S/N 0000134, Drawer 25-22038-54.  
UER 154903 (5-20-63) - Rack S/N 0000033, Drawer 25-22042-51.

Figure A 1201 (cont'd)  
Page 2 of 2

Test Errors - Retest Good:

UER 092723 (6-11-63) - Rack S/N 0000263, Drawer 25-22042-51.  
UER 092724

Incompletely Analyzed

UER 060581 (4-12-63) - Rack S/N 0000134, Drawer 25-22038-54.  
UER 154903 (5-20-63) - Rack S/N 0000033, Drawer 25-22042-51.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA

March 28 through June 26, 1963

Figure A 1243 - Launch Control Console

Initial Failure or Rejection

- UER 037625 (3-30-63) - S/N 0000034, Console P/N 25-24172 has plugs 300ALJ7 and 300ALJ8 clocked wrong. Plugs were reclocked.
- UER 054410 (4-29-63) - S/N 0000039, Indicator-Launcher P/N 25-24176-15 failed tests. Unit was wired wrong. Wiring was corrected.
- UER 054321 (4-30-63) - S/N unknown. Drawer P/N 1274013-503 would not pass UHF and HF tests. Drawer reworked by RCA personnel at Boeing.
- UER 092596 (5-9-63) - S/N 0000042, Program Control Panel P/N 25-24177-10 will not pass tests.
- UER 092597 - Switch S15 would not close. Switch was readjusted.
- UER 092658 - Launch Control Panel P/N 25-24178-18 time delay is too long. Time delay relay was readjusted.
- ER 651743 (5-20-63) - S/N unknown. Launch Control Panel P/N 25-24178-18. Wires routed wrong and could interfere with actuator shaft which operates time delay relay. Wires re-routed.
- UER 092943 (6-13-63) - S/N 0000043. Launch Control Panel P/N 25-24178-18. Counter starts but will not stop. Screw P/N 23-8394 was actuating the delay switch intermittently. Screw was adjusted.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 26, 1963

Figure A 1284 - Launch Facility Power Supply Group

Initial Failure or Rejection

The following discrepancies were caused by wiring errors:

ER 717912 (3-28-63) - Rack S/N 0000214

UER 054412 (4-25-63) - Rack S/N 0000251

UER 060731 (4-22-63) - Rack S/N 0000244

The following are discrepancies involving connectors:

ER 656243 (4-3-63) - Rack S/N 0000222. Wrong connector installed.

The following discrepancies are of a miscellaneous nature:

UER 054312 (5-1-63) - Rack S/N 0000239. Resistor R4 installed incorrectly on  
UER 054315 circuit card.

UER 092630 (5-2-63) - Rack S/N 0000315. Resistor R4 installed incorrectly on  
circuit card.

UER 092640 (5-3-63) - Rack S/N 0000270. Rack failed hi-pot test. Wire is  
arcing at ferrule at circuit breaker.

UER 092892 (5-15-63) - Rack S/N 0000258. Rack failed hi-pot test. Wires  
replaced.

UER 092955 (6-4-63) - Rack S/N 0000280. Circuit breaker CB-2 (P/N BAC C18J-10A)  
will not actuate.

UER 109462 (4-5-63) - Rack S/N 0000221. High output voltage from drawer. Found  
UER 109463 by engineering to be a faulty resistor R5 and transistor  
Q5, card P/N unknown.

UER 092874 (5-13-63) - Rack S/N 0000263. Relay K-1 (BAC R13AP-1) is shorted to  
ground.

UER 154846 (5-22-63) - Rack S/N 0000313. Relay K-1 (BAC R13AP-1) shorted to  
ground at terminals A-1 and A-2 during hi-pot test.

Test Errors - Retest Good:

UER 054393 (4-25-63) - Rack S/N 0000245. Drawer had high output voltage.  
UER 059394 Retested good at drawer level.



SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 26, 1963

Figure A 1289 - Launch Control Facility Power Supply Group

Initial Failure or Rejection

UER 092463 (5-6-63) - Rack S/N 0000032. Wire bundle to circuit breaker panel  
UER 092628 did not pass hi-pot test.  
UER 092464

UER 109476 (5-6-63) - Rack S/N 0000033. Wiring error.

UER 154826 (5-17-63) - Rack S/N 0000036. Wiring error.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 26, 1963

Figure A 1337 - Distribution Box, Launch Facility

Initial Failure or Rejection

The following discrepancies were caused by wiring errors:

UER 054365 (4-29-63) - Rack S/N 0000249  
UER 060671

UER 054356 (4-29-63) - Rack S/N 0000239

UER 054371 (4-30-63) - Rack S/N 0000254  
UER 054376

UER 054388 (4-24-63) - Rack S/N 0000247

UER 054404 (4-25-63) - Rack S/N 0000238

UER 092631 (5-3-63) - Rack S/N 0000255

UER 092639 (5-3-63) - Rack S/N 0000241

UER 092589 (5-10-63) - Rack S/N 0000257

UER 092902 (5-16-63) - Rack S/N 0000259

UER 154868 (5-24-63) - Rack S/N 0000261

UER 154890 (5-27-63) - Rack S/N 0000276

The following are discrepancies involving connectors:

UER 092573 (5-7-63) - Rack S/N 0000242. Connectors J-22 and J-01 interchanged.

UER 092602 (5-10-63) - Rack S/N 0000263. Wrong connector installed at J-28.

UER 092890 (5-15-63) - Rack S/N 0000274. Pins on J-04 not properly seated.

UER 182123 (5-14-63) - Rack S/N 0000258. Wrong connector installed at J-33.

Miscellaneous discrepancy:

ER 664125 (5-24-63) - Rack S/N 0000267. Two terminal lugs were crimped over wire insulation.

Figure A 1337 (cont'd)  
Page 2 of 2

Contamination & Damage

UER 092654 (5-6-63) - Rack S/N 0000371. Bent pins on switch connector and connectors will not mate.

Primary Failure Events

UER 060618 (4-12-63) - Rack S/N 0000235. Circuit breaker CB-3, P/N BAC 18J-50A, cannot be closed.

UER 060659 (4-18-63) - Rack S/N 0000230. Relay K-3, P/N BAC R13AH-1, defective.

March 28 through June 26, 1963

Figure A 1379 - Battery Charger Alarm Set

Initial Failure or Rejection

UFR 054362 (4-29-63) - S/A unknown. Unable to connect plugs on rack because of wrong polarization.

UER 092891 (5-13-63) - S/N unknown. Wire shorted to shield.

The following discrepancies involve wiring errors:

UER 182107 (3-28-63) - S/N unknown.

UER 060575 (4-11-63) - S/N unknown.

UER 054374 (4-30-63) - S/N unknown.

UER 092592 (5-9-63) - S/N. unknown.

UER 154859 (5-23-63) S/N unknown.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 26, 1963

Figure A 3007 - Test Set, Explosive Set Circuitry

Initial Failure or Rejection

- UER 128115 (4-1-63) - Bridge wire resistance meter would not null. Also hazardous current meter out-of-tolerance.
- UER 128164 (4-2-63) - Meter out-of-tolerance. Returned to vendor.  
UER 128165
- UER 089147 (5-4-63) - Bridge wire resistance meter would not null. Internal adjustment of potentiometer R5 was required to obtain null.
- UER 181520 (5-16-63) - Bridge wire resistance meter would not null.
- UER 032861 (6-20-63) - Bridge wire resistance meter would not null. Adjustment of switches S-1 and S-2 required.

Contamination & Damage

- UER 181538 (5-17-63) - Battery terminals corroded.
- UER 116510 (6-7-63) - Battery terminals corroded.

Test Error - Retest Good:

- UER 181519 (5-16-63) - Several nulls obtained on bridge wire resistance meter. Only one null noted during retest.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 26, 1963

Figure A 3092 - Programmer Group Test Set

Initial Failure or Rejection

The following discrepancies were caused by wiring errors:

ER 663561 (4-1-63) - S/N 0000024  
UER 132475 (4-9-63) - S/N 0000028  
UER 132558 (4-10-63) - S/N 0000025

Primary Failure Events

UER 132453 (3-29-63) - S/N 0000027, Module 25-29139-6. Card reader contacts intermittent.  
UER's 132458, 132460, 132461

UER 132456 (3-29-63) - S/N 0000024, Module 25-29139-6. Test response out of specification. Removed and replaced card reader.  
UER 663564

UER 132462 (4-3-63) - S/N 0000027, Module 25-29115-8.  
UER 132463 - Module 25-29104-1 (used on 25-29115-8) input diode (P/N unknown) failed.  
UER 132464 - Module 25-29115-8, stopper switch will not operate. No further information.  
UER 132425 - Module 25-29102-1 (used on 25-29115-8) test response out of specification. No further information.

UER 132466 (4-5-63) - S/N 0000027. Submodule 25-29104-1 (used on Module 25-29114-5), Q2 (BAC T1 K1) reported open base to emitter.

UER 132554 (4-12-63) - S/N 0000025, Module 25-29139-6. Card read switch contacts intermittent.

UER 132545 (4-26-63) - S/N 0000029. Meter (P/N BAC V25D3) discrepant. Will not meet tolerance requirements.

ER 658560 (5-8-63) - S/N 0000031. Switch (P/N BAC S30GB3) has intermittent contacts.

UER 132487 (5-21-63) - S/N 0000032. Submodule 25-29104-1 of Module 25-29115-8, diode CR5 (479-0029-001) shorted.  
UER 132486

UER 132492 (5-24-63) - Submodule 25-29104-1 of Module 25-29115-8, diode CR2 (479-0029-001) open.  
UER 132491

UER 132512 (6-3-63) - Submodule 25-29104-1 of Module 25-29115-8, diode CR2 (479-0029-001) open.  
UER 132511

Primary Failure Events (cont'd)

UER 132504 (5-29-63) - S/N 0000032.  
UER's 132478, 132505 - Submodule 25-29104-1 of Module 25-29113-1. Transistor (BAC T1K1) open base to emitter.  
UER's 132502, 132503 - Submodule 25-29104-2 of Module 25-29116-1. Transistor (BAC T1K1) shorted collector to emitter.  
  
UER 132499 (5-28-63) - S/N 0000032, 29-22772-2. Diodes CR3, CR4, CR5 (479-0029-001).

The following failures are reported as having test responses out-of-tolerance. No information is available as to the detailed component(s) involved in the unacceptable response or the true cause of the failures:

UER 132548 (4-25-63) - S/N 0000029, Module 25-29107-11.  
UER 132541 (4-29-63) - S/N 0000030, Module 25-29121-9.  
UER 132539  
  
UER 132533 (5-1-63) - S/N 0000030, Module 25-35434-3.  
UER 132488 (5-21-63) - S/N 0000032, Module 25-29109-1.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 26, 1963

Figure A 4115 - Air Conditioning Unit, A/F 32C-10

Initial Failure or Rejection

- ER 606363 (4-9-63) - Air Conditioner P/N 25-22601-7. Reversed wires caused compressor to draw a vacuum.
- ER 606068 (4-8-63) - Air Conditioner P/N 25-22601-7. Plastic plug in dryer inlet obstructed air flow. Plug removed.
- ER 779594 (5-23-63) - (1) Wires reversed inside Onan Electric generator control panel.  
ER 779597 (2) Wires reversed at CB-9 Main Control Panel.  
(3) Wires shorted inside Cannon Plug of Auto Controller harness.

Primary Failure Events

- ER 779517 (4-5-63) - P/N 25-22601-905 Assembly inoperative, unable to adjust suction regulator, Alco Valve Co. P/N 772. Replaced 25-22601-905 assembly.
- ER 779590 (4-30-63) - Lower Expansion Valve, American Standard (Detroit Controls Div.) P/N 71810. Valve leaks; replaced.



SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 26, 1963

Figure A 4491 - Start-Up Unit, Launch Facility

Initial Failure or Rejection

UER 181292 (3-28-63) - S/N 0000033. Terminal loose inside relay (P/N BAC A12K2)  
UER 181490 (5-8-63) - S/N 0000047. Excessive solder caused short.

Primary Failure Events

UER 069595 (4-12-63) - S/N 0000022. 25-34489-5, S/N 0042883, R25 (P/N R14CC204).  
UER 181512 (5-13-63) - S/N 0000048. 25-34489-5, S/N 0000002, R25  
UER 181511 (P/N BAC R14CC204).

Analyses of failed BAC R14CC204 trimpots have shown that windings of the trim-pot open making it impossible to adjust to full resistance range to bring the pulse duration within tolerance. Failure of the time pulse during facility start-up could damage the missile G&C section. A change being considered will replace the R25 trimpot with a fixed resistor and increase the pulse width tolerances.

Incompletely Analyzed

R/T Z031763 (6-10-63) - 3/SN 0000053 no pulse output. Replaced P/N 25-34489-5 timing module.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 26, 1963

Figure A 4523 - Power Supply

Initial Failure or Rejection

UER 103524 (4-2-63) - S/N unknown. Switch requires excessive pressure to actuate.

UER 181337 (4-12-63) - S/N 0000139. Relay (P/N unknown) does not make.  
UER 181338

Contamination & Damage

UER 181319 (4-1-63) - S/N 0000126, Module 29-26814-5. Transistor Heat Sink Q3, P/N unknown, shorted.

This failure event was reclassified from Primary. It is representative of a problem which mica washers, damaged during assembly, allow certain transistors and diodes to short to ground. Lack of field failure data indicates that the problem is under control.

Test Error - Retest Good:

UER 181333 (4-3-63) - S/N 0000131, Module 25-33355-7.

Primary Failure Events

UER 181331 (4-2-63) - S/N 0000127, Module 25-33353-7. Q3 shorted, R1 and R2 burned (P/N's unknown).

UER 166309 (5-28-63) - S/N 0000088, Module P/N unknown. Capacitor C3  
UER 166311 (P/N 224D002A2B) leaking.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
March 28 through June 26, 1963

Figure A 6301 - Instrumentation Group, Trainer Test

Contamination & Damage

- UER 147366 (4-15-63) - Cable Assembly (Autonetics) P/N 55008-106. Connector pins bent and recessed. Replaced cable assembly.
- UER 147354 (4-13-63) - Cable Assembly (Autonetics) P/N 55008-106. Insulation on cables torn. Replaced cable assembly.
- UER 187531 (4-27-63) - Cable Assembly P/N 25-29099-49. Insulation on cables torn. Replaced cable assembly. Also reported on UER 187242.

Primary Failure Events

PCM/FM Transmitter P/N 10-20944-1. Transmitter failed to meet minimum power requirements of functional test. Transmitters replaced.

UER 187522 (4-25-63) - S/N 0000508.

UER 200551 (4-6-63) - S/N unknown.

PCM/FM Transmitter P/N 10-20944-1. Transmitters modulated inversely. Transmitters replaced.

UER 147406 (4-26-63) - S/N 0000528.

UER 147404 (4-26-63) - S/N 0000525.

UER 094242 (6-3-63) - S/N 0000541. Also reported on UER 094241.

UER 094129 (5-28-63) - S/N 0000515. Also reported on UER's 094263 & 094262.

UER 187523 (4-25-63) - S/N 0000532.

UER 187579 (4-26-63) - S/N 0000527.

UER 093929 (5-4-63) - S/N 0000534. Also reported on UER 093936.

UER 093940 (5-5-63) - S/N 0000530. Also reported on UER 093939.

UER 093937 (5-5-63) - S/N 0000539. Also reported on UER 093938.

UER 093932 (5-5-63) - S/N 0000538. Also reported on UER 093934.

UER 093931 (5-4-63) - S/N 0000526. Also reported on UER 093933.

ECP 635 has been initiated to revise transmitter circuitry to correct inverse modulation problem.

Primary Failure Events (contd)

- UER 094091 (5-17-63) - PCM/FM Transmitter (P/N 10-20944-1), S/N 0000516, has center frequency deviation out-of-tolerance.
- UER 187529 (4-26-63) - PCM/FM Transmitter (P/N 10-20944-1), S/N 0000519. No power output from transmitter during final functional test. Replaced transmitter.
- UER 094254 (6-3-63) - The signal input to the C/D Receiver "B" (25-39273-1), S/N 0000026, is out-of-tolerance. Investigation revealed a faulty C/D Receiver.
- UER 187564 (4-26-63) - PCM/FM Transmitter (P/N 10-20944-1), S/N 0000537. Short in transmitter during functional test. Replaced transmitter.
- The Command Destruct Receiver (P/N 25-39273-1) S/N 0000011, was involved in both the following failure events of the CTLI Wafer (P/N 25-25402-35), S/N's 0000018 and 0000019:
  - UER 093941 (5-5-63) - The Destruct Signal occurred seven seconds after initiation of destruct command. The C/D Receiver, S/N 0000011, retested good.
  - UER 094272 (6-6-63) - The operation of the Destruct Pulse Time Limiting circuitry caused the C/D "B" and TLM Power Supply to shut down. In addition to C/D Receiver "B", S/N 0000011, being replaced, C/D Receiver "A", S/N 0000031, was removed. C/D Receiver S/N 0000011 had a loose part inside.

Test Error - Retest Good:

- UER 094267 (6-5-63) - The CTLI Wafer has an incorrect analog reading. The C/D Receiver, S/N 0000034, retested good by MRB, UER 177349.

SEATTLE (IN-PLANT) MANUFACTURING - FAILURE DATA  
January 1 through June 26, 1963

Figure A 9100 - Console, Monitor & Control, CTLI

Initial Failure or Rejection

UER 092618 (5-2-63) - XDS-22 Lamp Socket has defective contact.

Figure A 9164 - Power Supply Group

Initial Failure or Rejection

UER 166308 (5-27-63) - Diodes in BAC R13AP-1 Relay found faulty.

Figure A 9233 - Power Supply Set, C/D & T/M CTLI

Initial Failure or Rejection

UER 189658 (5-14-63) - 25-34183-1, S/N 15328-2, failed para. 2.2.10.8 of D2-10811. Q9 transistor replaced.

UER 189651 (5-14-63) - 25-34183-1, S/N 15328-4, failed para. 2.2.9.7 of D2-10811. Q8 transistor replaced.

Figure A 9302 - Panel, Patching, Coaxial Cable, CTLI

Initial Failure or Rejection

UER 116412 (5-16-63) - 11800 Coaxial Switch, S/N 1444, power consumption out-of-tolerance.

UER 178173 (3-8-63) - 11800 Coaxial Switch, S/N 1286, power consumption out-of-tolerance.

THE **BOEING** COMPANY

2-5142-2

NUMBER D2-5286-41

SECTION TITLE PROBLEM STATUS SUMMARY FOR JUNE, 1963

PREPARED BY Failure Evaluation Group 2-1772-2

SUPERVISED BY *C. M. Minor* 7/15/63  
C. M. Minor

APPROVED BY *R. J. Bush* 7/15/63  
for *J. Delaney*

APPROVED BY *F. L. Curtis* 7/15/63  
F. L. Curtis (DATE)

U3 0000 REV. 2/63

REV SYM \_\_\_\_\_

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SECT. 0	PAGE 1 of 7

**SUMMARY - RELIABILITY PROBLEMS**  
**MINUTEMAN FAILURE RECURRENCE PREVENTION ACTION AND STATUS REPORT for June, 1963**

FIG. A NO.	FRP PROB. NO.	PROBLEM DESCRIPTION	FAILURE EVENTS		STATUS OF FUNCTIONS RESULTING IN PROBLEM ELIMINATION							REMARKS
			NUMBER and LOCATION	NUMBER LAST 3/1 MO's	A	B	C	D	E	F	G	
1367	57	Motor Generator Set, JCF D C Motor Brush Lifter Solenoid Failures The battery charger and other loads on Phase A with the solenoids caused a voltage drop below the pickup voltage required by the solenoids. Inadvertent cadmium plating on the mechanisms contribute to its inability to operate. *Failure information for March, April & May obtained from AFOT 211; not included in other reports received by the Failure Recurrence Prevention unit.	9-WAFB (A&CO) 5-341st SSM	0 0(3/0)				4/9	4/26			OPEN. ECP 602 will revise brush lifter solenoid control system  ECP OED 293 to change the incorrect plating is in approval routing.  The frequency of failure has been greatly reduced by lubrication of the cadmium plated parts and the removal of the battery charger from phase A per FCR 235.
1202 & 9160	64	Retractor, G&C Umbilical Cable Cable Assembly 2105-1 Kinking & Breaking Problem The cable either breaks or kinks so complete retraction cannot be accomplished.	9-WAFB 8-WAFB (A&CO)	3/2 3/0	5/17	5/22						OPEN Failure analysis of broken cable is in process.
A - FRP Action Initiated B - Analysis in Work C - FAR Released		D - Change Paper Initiated E - Change Presented to Customer F - Change Approved										G - Retrofit Approved

# SUMMARY - RELIABILITY PROBLEMS

## MINUTEMAN FAILURE RECURRENCE PREVENTION ACTION AND STATUS REPORT for June, 1963

FIG. A NO.	FRP PROB. NO.	PROBLEM DESCRIPTION	FAILURE EVENTS		STATUS OF FUNCTIONS RESULTING IN PROBLEM ELIMINATION							REMARKS
			NUMBER and LOCATION	NUMBER LAST 3/1 NO.'s	A	B	C	D	E	F	G	
4043	65	Elevator Work Cage, Pass. & Equip Control & Relay Boxes Moisture & Corrosion Problem  Control boxes and relay boxes are susceptible to moisture which causes corrosion of electrical components	7-VAFB 9-MAFB (A&CO)	1/0 4/0	5/22 ↑	-	-	↑				OPEN Corrective action to be included in ECP 539B1 which is being prepared.
4075	44	Truck Tractor, Transprt'r Erector Clutch Master Cylinder Mounting Plate Cracking Problem	3-VAFB	0	12/4/2 ↑	-	-	3/28 ↑	5/23 ↑	5/23 ↑		CLOSED ECP 571 Approved. Mounting Plate to be reinforced.
4187	50	Alarm Set, Missile Storage, Transit Unit Electrodynamic Assembly Environment Monitoring Failure. The alarm set fails to provide proper monitoring of environmental condition.	8-Plt. 77 4-VAFB 10-MAFB (A&CO) 2-EAFB (A&CO)	3/0 2/0 4/1 2/1	12/5/2 - ↑	5/2 ↑	-	3/7 ↑	5/12 ↑	5/12 ↑		OPEN ECP 341 proposes corrective changes. Retrofit units S/N 0000001 thru 0000032.
1318	51	Plumbing Set, G&C Ground Cooling Solenoid Valve 10-20967 Emergency Operation Failure Improper installation of a fitting interferes with operation of the valve.	1-Mfg. 5-VAFB (A&CO) 7-VAFB 1-EAFB (A&CO)	0 0 0 1/0	- - - ↑	3/11 ↑	5/22 ↑	5/22 ↑	5/22 ↑	5/22 ↑		OPEN ECP (B&MD-183) providing a different fitting is still in approval routing.
A - FRP Action Initiated B - Analysis in Work C - FAR Released			D - Change Paper Initiated E - Change Presented to Customer F - Change Approved							G - Retrofit Approved		



# SUMMARY - RELIABILITY PROBLEMS

## MINUTEMAN FAILURE RECURRENCE PREVENTION ACTION AND STATUS REPORT for June, 1963

FIG. A NO.	FRP PROB. NO.	PROBLEM DESCRIPTION	FAILURE EVENTS		STATUS OF FUNCTIONS RESULTING IN PROBLEM ELIMINATION							REMARKS
			NUMBER and LOCATION	NUMBER LAST 3/1 MO'S	A	B	C	D	E	F	G	
1248	53	Cable Assembly Set, Launcher Cable & Connector Damage Base Handling Problem	61-MAFB (A&CO) 1-341st SMW 3-MAFB (A&CO)	10/0 1/0 3/2	2/7 ↗	↗	-	-	-	-	-	CLOSED A review of the failure reports indicated that the problem is quality control instead of handling.
1275	47	Jack Set, Translating Hydraulic Hand Pump 29-21668-1 Seal Failure Problem High pressure seal leaks limit output pressure and low pressure seal leaks cause loss of hydraulic fluid.	2-MAFB (A&CO) 13-Pit. 77 10-VAFB (cat I&II) 1-VAFB (cat III) 5-MAFB (A&CO)	0 11/8 1/0 1/1 5/5 △	8/3 2 ↗	↗	-	5/17 ↗	↗	↗	↗	OPEN ECP (B & MD 93) to revise the high pressure seal and reduce the pressure on the low pressure seals is in approval routing.
14059	49	Semi-Trailer, Transporter Erector Container Tie Down 25-28054-3 Structural failure caused by Thermal expansion of Hydraulic fluid	4-341st SMW 3-VAFB 2-MAFB (A&CO)	0 0 0 △	0 0 0 △	0 0 0 △	-	5/24 ↗	↗	↗	↗	OPEN ECP (B & MD 153) to provide a pressure relief valve in the T/E container hydraulic system is in approval routing.
	△	All failures of this equipment at operational sites are not reported to the Failure Recurrence Prevention Unit.										
A - FRP Action Initiated B - Analysis in Work C - FAR Released		D - Change Paper Initiated E - Change Presented to Customer F - Change Approved										G - Retrofit Approved

**SUMMARY - RELIABILITY PROBLEMS**  
**MINUTEMAN FAILURE RECURRENCE PREVENTION ACTION AND STATUS REPORT for June, 1963**

FIG. A NO.	FRP PROB. NO.	PROBLEM DESCRIPTION	FAILURE EVENTS		STATUS OF FUNCTIONS RESULTING IN PROBLEM ELIMINATION							REMARKS
			NUMBER and LOCATION	NUMBER LAST 3/1 MO's	A	B	C	D	E	F	G	
4075	36	Truck Tractor, Transporter Erector Auxiliary Transmission Oil Circulating Pump Failures	1-MAFB (A&CO) 1-VAFB	0 0 △	10/22 22/2	11/14 2	12/3/2	5/9	6/7	-	-	CLOSED. ECP B & ED-149 cancelled per BSD letter BSQC/Col. Cool/8353. No additional action is required.
1214	42	Cooler, Liquid, Guidance Section Pumping Assembly 1791-LA Leakage Problem Leaks occur around the AN fittings, modulator valve assembly, and the two motor driven pump shafts.	6-Mgr. 11-MAFB (A&CO) 18-341st SMW 1-STPIII 4-VAFB	2/0 2/1 9/2 0 0	12/20 20	-	4/5	4/5				OPEN Vendor is issuing a work statement calling for improved Q.C. inspection of pump manufacture. A source of new seals or pumps is being investigated.
	41	Cooler, Liquid, Guidance Section Water Chiller 516100 Compressor Failure Problem Many failures have occurred; most of which had symptoms of broken intake reed valves.	10-MAFB (A&CO) 57-341st SMW 4-STPIII 4-VAFB 2-EAFB (A&CO)	1/0 34/12 0 0 2/2	11/7 7	-	2/27	2/27				OPEN Tests are being conducted to determine the cause of failure. Results are not available.
		△, All failures of this equipment at operational sites are not reported to the Failure Recurrence Prevention Unit.										
		A - FRP Action Initiated B - Analysis in Work C - FAR Released	D - Change Paper Initiated E - Change Presented to Customer F - Change Approved							G - Retrofit Approved		

# SUMMARY - RELIABILITY PROBLEMS

## MINUTEMAN FAILURE RECURRENCE PREVENTION ACTION AND STATUS REPORT for June, 1963

FIG. A NO.	FRP PROB. NO.	PROBLEM DESCRIPTION	FAILURE NUMBER and LOCATION	EVENTS		STATUS OF FUNCTIONS RESULTING IN PROBLEM ELIMINATION							REMARKS
				NUMBER LAST	3/1 MO'S	A	E	C	E	F	G		
6301	62	INSTRUMENTATION GROUP: Trainer Test Guided Missile PCM/FM Transmitter (P/N 10-20944-1) Inverse modulation on functional test.	4-VAFB 20-mfg.	4/1 11/2	-	-	-	5/23	6/24	↗	↗	OPEN: ECP-635 revises signal conditioning circuitry to correct inverse modulation problem.	
4491	63	Start Up Unit - Launch Facility Gyro Start Assy (P/N 25-34489-1) Trimpot (R-25) not adjustable for correct timing. During factory acceptance and launch facility start-up tests, trimpot on timing card (25-34489-5) cannot be adjusted to give gyro start pulse of 2.5 seconds duration.	7-34489MM 5-mfg	11/9/0 2/1	-	6/26	↗	↗				OPEN: Failure analysis on 25-34489-5 completed. Awaiting physical analysis on BACRL400-202. An ECP is being considered to replace BACRL400-202. Trimpot with a fixed resistor. P/N BAC 1400-202 to be made "inactive" for design.	
	1	Failure events as reported for March, April & May on MALMSTROM AFB tab run 5AFK-11-Report #5.											
A - FRP Action Initiated B - Analysis in Work C - FAR Released			D - Change Paper Initiated E - Change Presented to Customer F - Change Approved							G - Retrofit Approved			

**SUMMARY - RELIABILITY PROBLEMS**  
**MINUTEMAN FAILURE RECURRENCE PREVENTION ACTION AND STATUS REPORT for June, 1963**

FIG. A NO.	FRP PROB. NO.	PROBLEM DESCRIPTION	FAILURE EVENTS		STATUS OF FUNCTIONS RESULTING IN PROBLEM ELIMINATION							REMARKS	
			NUMBER and LOCATION	NUMBER LAST	A	B	C	D	E	F	G		
1284	58	<u>Power Supply Group, L.F.</u> <u>Environmental Cooling Air</u> <u>Cooling Air Shutdown</u> <u>or Failure</u> Failures of the launch facility power supply group are being induced by a lack of cooling air which occurs when the environmental control system Fig.A 1211 fails or is shut down.	5-MAFB (ACO) 15-34LSMW 1-VAFB 1-EAFB (A&CO)	0/0 4/1 0/0 1/0	-	-	-	5/13 ↗				OPEN: ECP Sys 19 has been initiated to provide a cooling effect sensor in air duct to Fig. A 1284. When loss of cooling occurs, the site will go into a controlled shut-down sequence to cut off the 400 cycle power supply to all OGE. As of 6-26-63, location of sensor requires further study and ECP-sys-19 will be revised.	
1412	54	<u>Signal Assembly Voice Reporting.</u> <u>Audio Reproducer Sticking</u> <u>Switch Adjustment Problem</u> VRSA sticks on one channel. Channel repeated until VRSA fails or is shut down. Malfunction, which frequently clears itself during transportation of equipment, is attributed to critical adjustment of two switches in the audio reproducer.	24-MAFB (A&CO) 50-34LSMW	9/6 28/8	3/27 ↗	-	-	5/29 ↗				OPEN: ECP 637 initiated to revise wiring which will make adjustment of switches S4 and S5 less critical.	
						D - Change Paper Initiated E - Change Presented to Customer F - Change Approved							G - Retrofit Approved
A - FRP Action Initiated B - Analysis in Work C - FAR Released													